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Volume XXIX, No. 10

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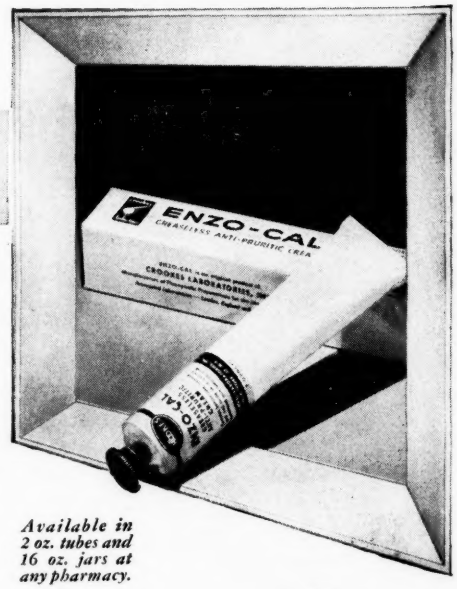
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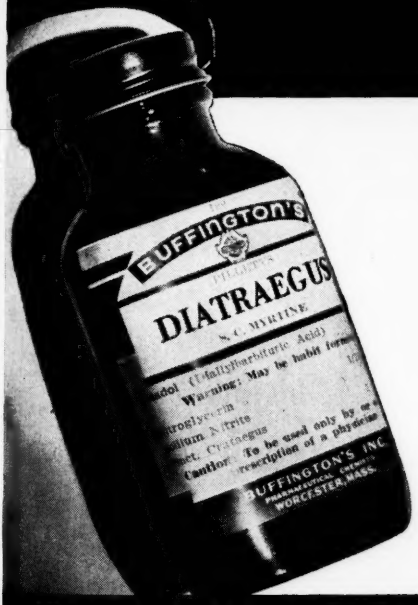
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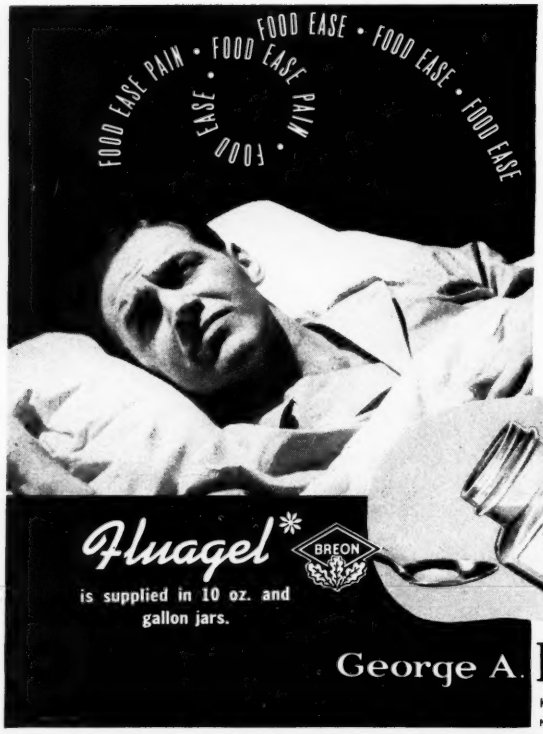
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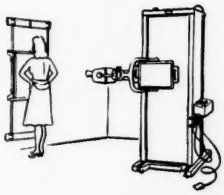
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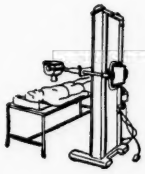
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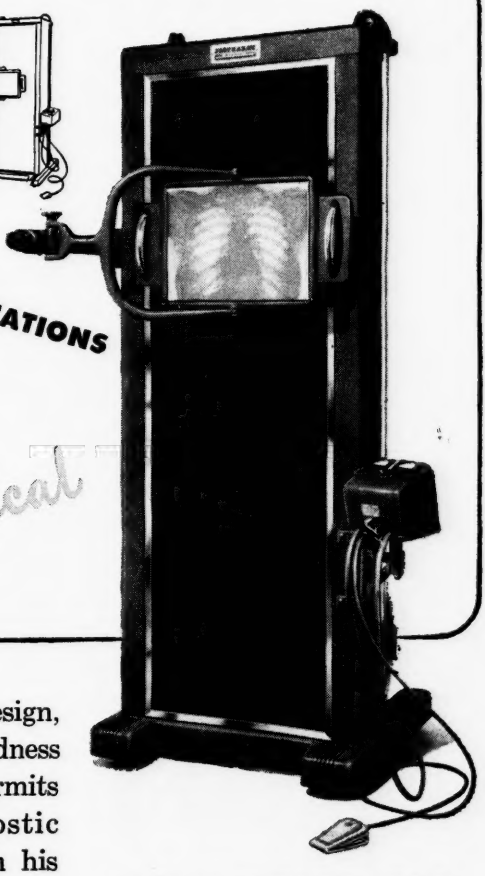


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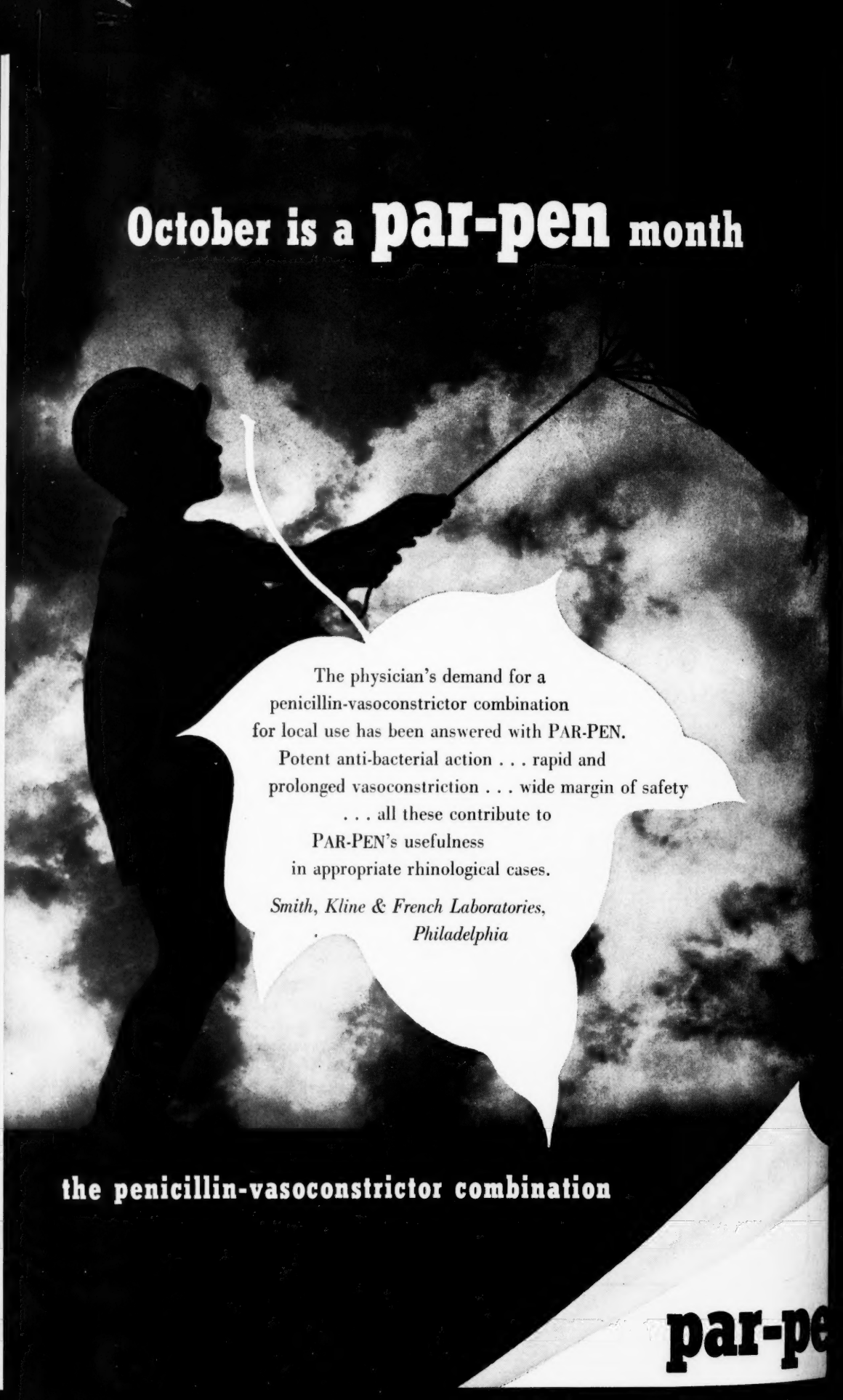
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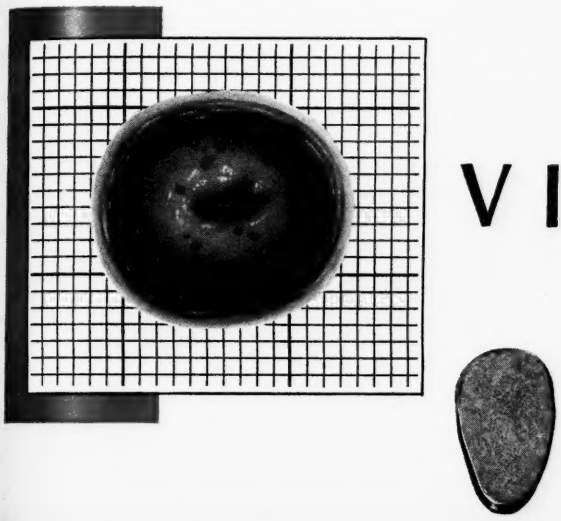
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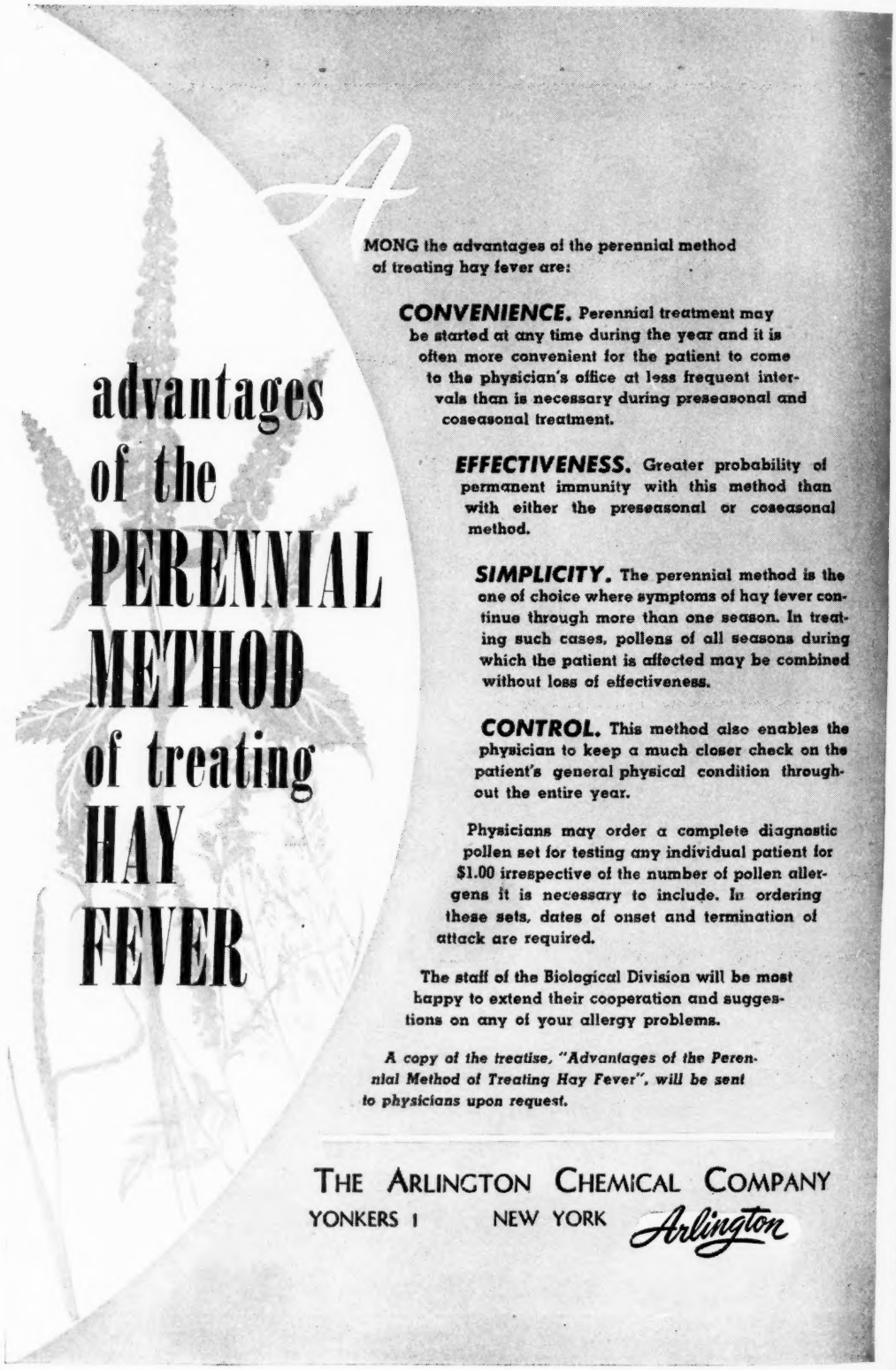
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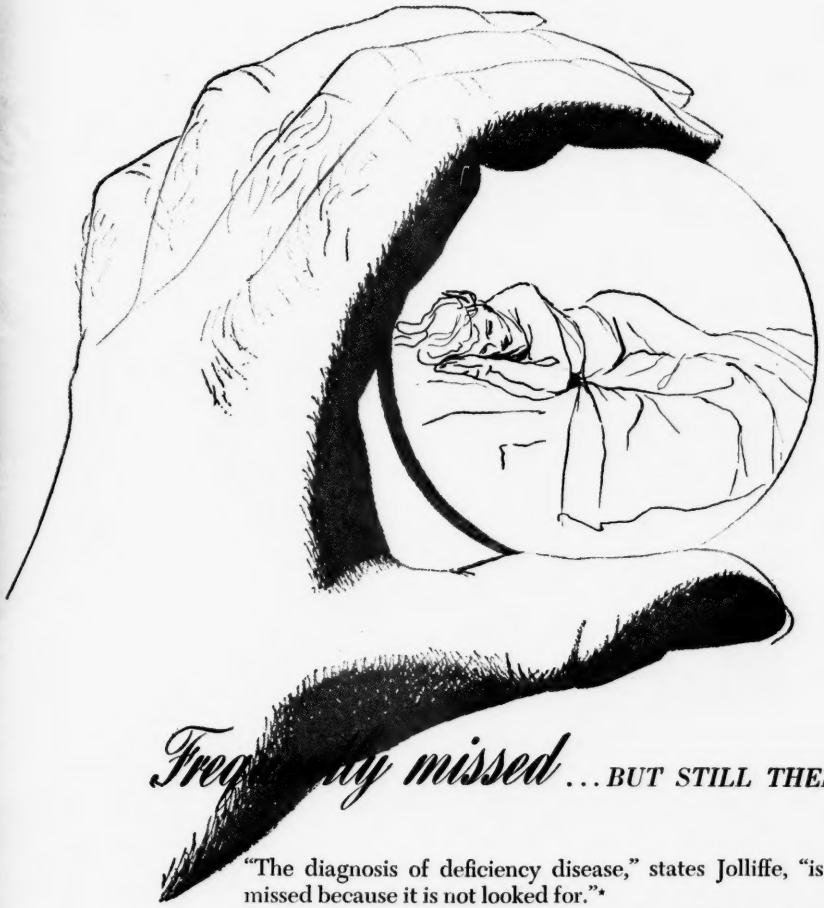
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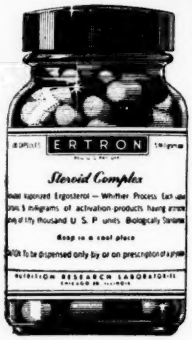
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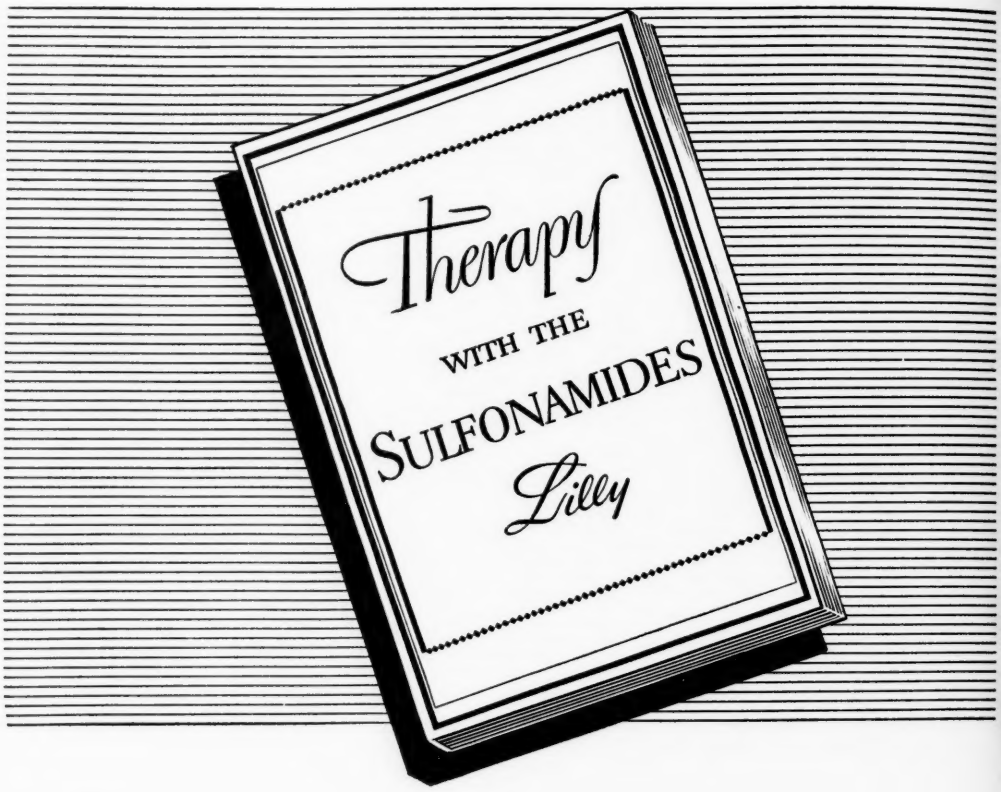
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The RHODE ISLAND MEDICAL JOURNAL

VOL. XXIX OCTOBER, 1946 NO. 10

BACKGROUND AND HIGHLIGHTS OF THE RHODE ISLAND HOSPITAL UNIT IN THE CHINA-BURMA-INDIA THEATRE OF WAR*

IRVING A. BECK, M.D.

The Author. *Irving A. Beck, M.D., of Providence. Assistant Physician, Outpatient Department, Department of Medicine, Rhode Island Hospital. Major, U. S. Army Medical Corps. (Inactive)*

"An Evacuation Hospital is usually located 25 to 50 miles behind the front lines, receives patients from divisional clearing companies and medical battalions, has a 750 bed capacity, and does not keep patients over 7 days". So we were lectured in our training period in the United States in the Fall of 1942. We lived to see every statement disproved in so far as the 48th Evacuation Hospital was concerned. In actual experience, in the India-Burma Theatre, our hospital functioned at times as close as 15, at other times as far as 1500 miles from the front line; patients arrived from more sources than any technical manual enumerates; the number of beds ranged as high as 1900 and usually averaged well above 750; and certainly, in so far as Chinese patients were concerned, the length of stay in our hospital was limited only by the degree to which we became fed up with them. At times the hospital could have qualified as a station hospital, at others as a general hospital, and at still others as truly an evacuation hospital, but in general, performed the functions of all three. Not merely did the hospital itself assume a varied and unanticipated role, but its members found themselves assigned to projects and positions in nowise related to their T. O. capacity in the S. O. P. Evacuation Hospital, and indeed even more at variance with their civilian occupations.

The strategy which led to the assignment of American service units to the China-Burma-India Theatre is now well known. Briefly, it was the American mission in that theatre to open up a life line to China, — the Ledo Road, its accompanying pipe lines, and meanwhile, until those projects were completed, the carrying by air of needed supplies over the dreaded Himalayan Hump. This project involved the coordinated efforts of American, British, Indians, and Chinese. For the lack of coordination that occurred not infrequently, one may refer to the recent "Wrath in Burma" by Fred Eldridge. One can then get some idea of the administrative problems involved for our hospital when patients were drawn from all the foregoing nationalities.

When in March 1943 the 48th Evacuation Hospital finally arrived in the staging area (actually a patch of semi-cleared jungle) at Margherita in Assam, India, close to the unpenetrated mountain range that separated Assam from Burma, the Unit was disappointed to find that our Evacuation Hospital was, at least temporarily, surplus. The Base Commander however, found in the Unit a source of personnel for various missions and assignments which had gone begging for men. It is impossible to enumerate all the individual assignments. Some that eventually transpired were, — officers to go with the advance parties laying the trace for the Ledo Road. The Chinese Army had no medical department worthy of the name, and so the unusual post of Medical Liaison Officer was created, and some of our officers found themselves in this frequently unpleasant assignment. Their function was to supervise and teach Chinese Medical personnel, treat patients, and above all check misappropriation of Lease-Lend medical supplies. Hospital sites for the Seagrave Unit had to be laid out in the jungle no-man's-land ahead, and for this mission a group of our men volunteered. Another assignment that materialized was that of providing medical care for Chinese troops in training in central India, and for this purpose a large contingent of our officers and nurses was selected. Another group was assigned

continued on next page

*Presented before the Rhode Island Medical Society at its 135th Annual Meeting, at Providence, May 16, 1946.

to the then mysterious "Rice Mission". This group had as its assignment, the taking of 200 Chinese and 200 American troops into highly malarial areas, and then permitting malarial exposure under campaign conditions, in order that a new anti-malarial prophylactic might be evaluated. The group ran into all kinds of practical difficulties, the greatest of which was the administrative handling of the Chinese. The group, however, eventually, accomplished its mission.

Later in the year, medical care was required for troops on and in advance of the Ledo Road, and for this purpose a detachment of our officers and enlisted men ran a Field Hospital which eventually grew to 300 beds, and rendered definitive medical and surgical treatment.

Meanwhile, the detachment at Ramgarh in central India, was accomplishing its mission of getting debilitated and diseased Chinese recruits into physical shape to pursue the Burma campaign, which, incidentally, had bogged down. In the spring of 1944, practically the entire group was reassembled near Ledo and a triple-combination-type hospital, already referred to, was established for Chinese troops. The Hukawng Valley campaign was now in dead earnest, and the hospital quickly became busy with large numbers of surgical and medical casualties. One of our officers took a detachment of our enlisted men with Merrill's Marauders in their sweep behind the Jap lines. After 6 busy months here, the entire hospital and its equipment, including even the 2½ ton trucks, were flown over the mountains into Myitkyina (pronounced "Mitchina") in upper Burma. This area had been just recently cleared of Japanese, and stragglers were still being rounded up. Here another triple-combination-type hospital was set up in a teakwood forest on the Irrawaddy river for American, British, Chinese, and Indian troops, for Kachin Rangers under the direction of the OSS, and for such native civilian Kachins, Shans, Burmese, Indian, and Chinese refugees as needed medical attention. The Unit continued to function in this area until the late Spring of 1945, when most of the personnel was returned to the United States under the two year rotation plan and the original Rhode Island Hospital component no longer existed in the 48th Evacuation Hospital.

In a brief summary such as this, one can touch only on the high-lights of two and a half years that were crowded with experiences, — medical, military and ethnic. Drab, uncomfortable, and monotonous though it often seemed at the time, now in retrospect the period in India and Burma is appreciated to have been not merely a contribution to the War effort, but a rich personal adventure.

OVERSEAS EXPERIENCES WITH THE MEDICAL SERVICE OF THE 48th EVACUATION HOSPITAL*

FRANK B. CUTTS, M.D.

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IN the time available I shall be able to present only a very sketchy panorama of our medical experiences in the China-Burma-India Theatre. After a few remarks of a general nature I shall briefly discuss some of the diseases we saw and treated together with figures indicating their appropriate incidence in our medical experience.

General Comments. Through a 2 year period ending June 30, 1945, our hospital admitted slightly more than 37,500 patients. About 7,500 of these were Americans, 2,000 were Indians, and the remaining 28,000, Chinese. Approximately two-thirds of the above patients were treated by the Medical Service as disease consistently produced more disability than did injuries or battle casualties, except for a short period during the campaign for Myitkyina. During our first year a large portion of our patients were Chinese recruits, freshly brought in by air from China. They were poorly nourished, suffering from beriberi, dysentery, relapsing fever, and heavily infected with malaria which they had contracted en route. They had no conception of sanitation and were constantly spitting on the floor until we could appeal to their sporting instinct to try and hit tin cans provided for the purpose. Flush toilets were available in most of our Chinese wards, but no one ever sat on them; the patients would invariably climb up on the seat and squat in oriental fashion with their feet on the rim, a feat that required a considerable degree of equipoise. After a few months we learned sufficient Chinese to take a

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brief history and conduct a physical examination without the aid of interpreters.

Malaria. Our total reported cases numbered 6378. There were 1639 cases of Vivax malaria, 1193 in Chinese and 446 in Americans; 3502 cases of Falciparum malaria, 3383 in Chinese and 119 in Americans; 1191 cases in whom the diagnosis of malaria was made on clinical grounds alone, many of these patients having received anti-malarial drugs prior to hospital admission; 42 cases of mixed infections, almost always vivax and falciparum infection occurring together; and only 4 cases of infection with quartan malaria. There were 103 cases recorded as cerebral malaria, all except one in Chinese, and all with plasmodium falciparum demonstrated in the blood smear. We did not see cerebral malaria associated with vivax infection. Quinine intravenously has real dangers and we have witnessed convulsions and sudden death during its administration in spite of all recognized precautions as regards time of administration and dilution of the drug with saline.

Bacillary Dysentery. There were 2,356 cases of dysentery excluding amebic infection. In most of those in whom rectal swab cultures were obtained, various types of Shigella organisms were recovered. Almost all of these cases responded well to the administration of sulfadiazene, 2.0 Grams initially and 1.0 Gram three times a day for 5 days. On this regime there were no renal complications.

Amebic Dysentery. Proven cases numbered 653; 320 in the Chinese and 333 in the Americans. Thus it is evident, in view of the fact that we had about four times as many Chinese patients as Americans, that amebic dysentery was relatively much more common in the Americans. This probably represents a relative lack of immunity to this infection on the part of Americans, as it certainly cannot be maintained that the hygiene or the eating habits of the Chinese are less conducive to infection. There were a good many cases treated on clinical evidence alone in addition to the above group, so that we have treated well over 1,000 patients with emetine. There were no serious toxic effects from the drug, only occasional nausea and vomiting, muscle aches, slight weakness and rarely transient tachycardia on slight effort. However, it should be stated that in patients with significant debility we reduced the daily dose to ½ grain (0.03 Grams). The standard treatment used was emetine grains 1 daily for seven days and carbasone 0.25 Grams t.i.d. concurrently for ten days. We have had in our own detachment 20 proven cases of amebic dysentery, treated by this regime and observed for the following periods; 18-24 months — 12 cases; 12-18 months — 1 case; 6-12 months — 5 cases; 0-6 months — 2 cases. At a recent examination of this group all were symptom free and examination of two or more stools in each instance was negative. It should be emphasized that in each instance treatment was instituted early in the disease. From these figures and our experience in general we believe that the course of treatment outlined above produces good long term results in the great majority of cases.

Common Respiratory Diseases. This includes nasopharyngitis, rhinitis, bronchitis and tonsillitis. There were 2072 cases so listed.

Venereal Diseases. There were 521 cases of syphilis, largely in the Chinese. Among these were 2 cases of syphilitic meningitis, 2 of aortic aneurysm, about 20 of bone and periosteal involvement, and about 15 cutaneous gummas. There were 236 cases of gonorrhea, almost all in the Chinese, as Americans with this disease were treated on an outpatient status. Between 5-10% were resistant to sulfadiazene therapy but would sometimes respond to a repeated intensive course. Penicillin was not available for use in Chinese with this disease. Cases of chancroid numbered 179. Response to sulfadiazene orally and locally was good. There were 62 cases of lymphogranuloma inguinale, mostly in the Chinese except for a few American negroes. A few cases had generalized adenopathy, splenomegaly and high fever. Response to sulfadiazene was usually good although 10 or more days of treatment was often required.

Fever of Undetermined Origin. 509 cases were in this classification. A considerable portion of these cases were undoubtedly malaria or dengue-like fevers.

No Disease Diagnosed. 3,079 cases were so diagnosed. It was a not uncommon custom among the Chinese, as confessed to us on several occasions, to seek the rest, good food and sociability provided in the hospital when their duties became too arduous or boring. Many of the Americans so diagnosed had minor functional complaints that did not seem to us to justify a diagnosis of psychoneurosis.

Relapsing Fever. In this group were 438 cases, all but one in Chinese. Although heavy spirochaetal infections could produce severe symptoms with dehydration, jaundice and shock, treatment with moderate doses of Neoarsphenamine (0.3 Grams) intravenously usually produced striking improvement in 18 to 36 hours, the temperature frequently falling in this interval from 106 to 96 degrees.

Scrub (Mite) Typhus. 290 cases were so diagnosed, 169 in the Chinese and 121 in the Americans. This was the most uniformly severe disease that we encountered in either race and affected each with almost equal severity. Our experience coincided with published descriptions.

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Louse Borne Typhus. There were about 300 cases of this variety, all in the Chinese. The disease occurred in troops fresh from China who were lousy and who had a high incidence of concomitant relapsing fever. OX-19 agglutinations were usually high in this group. In general these patients were distinctly less ill than those with mite typhus and the mortality was about one-half as great.

Tuberculosis. There were 217 cases, all in Chinese. There were at least 5 cases of miliary tuberculosis. Due to the common habit these people have of spitting anywhere at most any time, opportunities for infection are legion, and their resistance to this disease is rather poor. In addition to the above, there were 96 cases of pleurisy with effusion among the Chinese, presumably of tuberculous etiology.

Asthma. 90 cases were found among the Chinese and 30 among Americans. In the Chinese the disease is frequently severe and intractable and so far as we could tell, non-seasonal.

Pneumonia (Broncho and Lobar). 270 cases fell in this category. There were no unusual features and they responded quite uniformly to sulfonamides. Clear cut primary atypical pneumonia was distinctly uncommon in our experience.

Psychosis. 159 cases were so filed, chiefly in the Chinese. There were probably more as, due to language difficulties, only those cases were included with grossly abnormal behavior. Many of these cases were wildly disoriented and so were promptly evacuated after the liberal use (15-20 cc. at a time) of intramuscular paraldehyde.

Heart Disease. There were 78 cases mostly in the Chinese. There were a few instances of congenital and syphilitic heart disease, but the great majority of cases were typical examples of old inactive rheumatic heart disease, with mitral stenosis by far the most common lesion.

Mumps. 160 cases were seen, all but one or two in the Chinese. There was the usual incidence of orchitis but no definite encephalitis. Cases were sporadic and there was no clear cut epidemic.

Beriberi. 226 cases in Chinese occurred early in our experience in troops fresh from China. Peripheral neuritis, edema and definite cardiac findings were the chief features observed, with a few dying in sudden heart failure. Response to Vitamin B by mouth or parenterally, as the need dictated, was good but often took several days before noticeable improvement occurred, the signs of neuritis persisting for several weeks.

Dengue. At least 60 cases were seen. The disease in general conformed to test-book descriptions, although there were many other cases with atypical fever of five to seven days' duration that may well have been instances of this disease.

Heat Stroke and Exhaustion. 65 cases were seen in a relatively short period when new Chinese troops were being drilled in the hot semi-tropical sun. Some of them came in with temperatures of 109-110 F., and a few expired before treatment could be instituted. Intravenous infusions of saline and cold wet packs applied under an overhead fan usually relieved symptoms and signs promptly. It is of incidental interest that at that period great care had to be taken in the use of clinical thermometers. If the thermometer was taken out of the alcohol solution and exposed to the room air for much over 15 seconds, it would register 105-106 from the intense environmental heat. The ward personnel developed the technic of taking the thermometer out of alcohol, quickly wiping it once with cotton, inspecting the reading and then popping it in the patient's mouth, shaking down the thermometer after use.

Typhoid Fever. 74 cases were seen, all in the Chinese. The disease varied from mild to very severe. We had one patient who maintained a high fever for 84 days before final recovery. In several instances, blood cultures were still positive after 40 days of illness. There were, in addition, a moderate number of paratyphoid and salmonella septicaemias.

Nephritis. 18 patients were so diagnosed, all in Chinese. The nephrotic stage of chronic glomerular nephritis was most common.

Cholera. 12 examples of this disease were seen among the Chinese and the Indians. Intense dehydration and shock with typical rice water stools were the clinical features and the response to massive (up to 8000 cc. daily) amounts of intravenous saline solution was uniformly good.

Generalized Vaccinia. 10 examples of this condition were seen, all in Chinese. There was very little constitutional reaction. The discrete pustular rash was generalized but considerably more intense about the site of the recent vaccination, often with secondary implantations following scratching.

Smallpox. 4 cases were seen, 3 in Chinese and 1 in an American. One was moderately severe, but all recovered. The American had the scar of a vaccination in childhood, but reported that subsequent vaccinations did not take, and presumably inactive material was used.

Tetanus. 3 cases were seen, all in Chinese. They did well on massive (400,000) doses of antitoxin intravenously and heavy sedation with barbiturates.

Leprosy. 3 cases were seen among the Chinese, one with rather extensive neural involvement and two with skin manifestations alone.

Skin Diphtheria. 5 cases, all in Americans, were seen while we were in Burma. Two of these had typical peripheral neuritis. The typical skin ulcer

was covered by a black adherent scab, and on healing left a thin atrophic scar.

Kala Azar. 4 examples of this disease were seen in the Chinese, all proven by sternal aspiration. 3 had positive Formol-Gel tests, one did not. All responded to treatment with intravenous injections of urea stibamine or neostibamine (antimony preparations), although one developed reactions consisting of nausea, vomiting and diarrhea and severe muscular pains, and another required two full courses of 3.0 Grams each before recovery. It is of some interest that in one patient the serum protein was 12 Grams, 9 Grams of this consisting of globulin.

Dermatitis. Although we do not have accurate figures on their actual incidence, skin diseases were common in both Chinese and Americans. In Chinese the commonest lesions were scabies, fungus infections, dermatitis venenata and secondary pyodermas. In Americans, epidermophytosis, tinea corporis, furunculosis and infectious eczematoid dermatitis were the most prevalent. This last condition was at times a serious cause of disability, and although 5% Ammoniated Mercury and penicillin locally would help temporarily, recurrences were all too common.

Cirrhosis. 22 instances of this condition were observed, all in the Chinese. There may have been more as the diagnosis was reserved for those with the full blown picture with obvious ascites, except in cases proven by autopsy. From stool examinations, and, in a few instances, microscopic sections of the liver, we found no evidence of causal parasitic infestation of the liver with such conditions as Schistosomiasis. We suspected that one factor might be the relative lack of protein often observed in the Chinese diet. Several of the patients with cirrhosis were in their early twenties.

Giardiasis. Giardia lamblia were found frequently in stools, often in patients with no symptoms. Their presence made us suspicious of amebic infection, as they and endameba histolytica were rather often found in the same stool specimen. One point of incidental interest is that giardia were often found in the stools of patients who had just completed a full course of atabrine for malaria, thus indicating that this drug is far from a sure cure for infestation with this parasite.

Ascaris and Hookworm. Ova of either or both of these parasites were present in at least 50% of stools in the Chinese. Ascaris was occasionally found in Americans and hookworm was fairly common, especially in Americans who had lived in fox-holes under combat conditions. Early in the infestation, especially if heavy, patients with hookworm would have an intense eosinophilia and rather severe upper abdominal discomfort. Treatment with tetrachlorethylene (3cc.) would reduce the parasite density and relieve symptoms, but in some patients hookworm ova remained in the stools even after 3 courses of therapy.

Arthritis. A few instances of typical gonorrheal arthritis were seen as well as an occasional instance of definite rheumatoid arthritis in the active stage.

Miscellaneous. It is of some interest that we saw only one case of diabetes, and that was in an Indian. In the Chinese we did not observe a single instance of cardiac infarction, although a fair number of our patients were over 40 years of age. Instances of malignant disease were limited to 4 cases of lymphoma, all in the Chinese. Secondary anemia was common but no instance of pernicious anemia was seen. No clear cut example of scurvy was encountered. A few cases of duodenal ulcer were seen, chiefly in Americans, but our facilities did not permit much in the way of gastro-intestinal studies. There were a few colloid goitres and non-toxic thyroid adenomas.

Summary

In this two year period we had a wide and varied experience with infectious disease, deficiency states and tropical disease.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

of *Rhode Island Medical Journal*, published monthly at Providence, Rhode Island, for October, 1945.

State of Rhode Island } ss.
County of Providence }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Peter Pineo Chase, M.D., who, having been duly sworn according to law, deposes and says that he is the Editor-in-Chief of the *Rhode Island Medical Journal* and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Rhode Island Medical Society, 106 Francis Street, Providence, R. I.; Editor, Peter Pineo Chase, M.D., 106 Francis Street; Managing Editor, John E. Farrell, 106 Francis Street, Providence, R. I.

2. That the owner is Rhode Island Medical Society, 106 Francis Street.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

PETER PINEO CHASE, M.D., *Editor-in-Chief*

Sworn to and subscribed before me this 16th day of September, 1946.

JOHN E. FARRELL, *Managing Editor*
(My commission expires June 30, 1954

[SEAL.]

OVERSEAS EXPERIENCES WITH THE SURGICAL SERVICE OF THE 48th EVACUATION HOSPITAL*

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Two factors influenced the surgical work of the 48th Evacuation Hospital during its overseas tour of duty; the first, that we were in a tropical country and second, that for the most part our patients were Chinese troops.

It will readily be appreciated that in temperatures of 120 degrees or more and with a relative humidity of between 80 and 90 the problem of fluid balance was a major one. This was complicated by the fact that during the early days prepared intravenous solutions were not available and that there was increased fluid loss from the necessary use of mosquito bars.

In the beginning our surgical equipment was inadequate, to say the least. For example no anesthetic machine or suction apparatus were available except what could be improvised. As time went on, however, we received our full quota of surgical supplies.

The difficulties encountered in the use of ether, and other anesthetic problems are well covered by Dr. Edward Demarjian, chief anesthetist, in his paper "Anesthesia in the Tropics," R. I. Medical Journal, September, 1944.

Since the Chinese Army had no chain of evacuation for the handling of patients, as was so with American troops, our unit for the most part acted as a general hospital. It was, therefore, possible to follow our patients through and to carry out various types of definitive surgery such as plastic reconstructive surgery, bone grafts, etc. This added much to the interest and to the enjoyment of our work.

In an attempt to cover a few of the highlights in the brief time allotted I will divide my time into three sections and speak briefly on 1. Some aspects of tropical surgery 2. The treatment of battle casualties 3. Illustration of surgical cases with lantern slides.

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Some Aspects of Tropical Surgery

a) In dealing with surgical cases under any conditions it is always wise to keep in mind that the origin of fever may not be due to the actual operation. The Chinese and Indian patients that came under our care were to a considerable extent infested with various types of parasites which frequently came to life following surgical procedures. Malaria was the chief offender but other diseases such as kala azar, relapsing fever, dengue, the dysenteries, etc. were not infrequently at fault. Blood smears and stool examinations were routine in all cases with elevation of fever.

b) We had barely arrived in India when we were warned by the British against drainage of amoebic abscess of the liver which they stated resulted in almost 100% mortality. We, therefore, did not have to learn the hard way that conservative treatment with emetin, and occasionally aspiration, was the procedure of choice, except where secondary infection and non-response to the medical regime occurred.

We did, however, have two cases of rupture of amoebic abscess into the peritoneal cavity with symptoms and signs suggestive of ruptured peptic ulcer. The characteristic anchovy sauce type of pus was observed. Both of these cases made a prompt and uneventful recovery and I have a feeling that this experience made some of us question the dangers of open drainage, although this was entirely unjustified with only two cases upon which to base our opinion.

c) Because of the very high incidence of splenic enlargement due chiefly to chronic malaria we had a rather large experience with injuries to the spleen and had 18 cases of rupture that required spleenectomy. This not infrequently occurred from a relatively minor injury such as falling down or being struck by a fist. The following types of injuries were observed:

1. complete fragmentation
2. radial lacerations which usually extended into the pedicle
3. complete division of the lower pole
4. subcapsular hematoma
5. secondary hemorrhage occurring several days after a minor injury

Time will not permit a discussion of the symptoms, physical signs and differential diagnosis of the various types of injury although these are of interest. I would like to speak for a moment about the technique of operation. All patients were operated upon as soon as the diagnosis was made and had received adequate pre-operative preparation which is necessary in all cases of hemorrhage. The aim was to control bleeding as rapidly as possible. The left subcostal incision was superior in our hands. The left rectus incision on more than one occasion led to difficulties and had to be augmented by an additional transverse incision.

A "T" incision was used occasionally but took more time both on opening and closing. As soon as the peritoneal cavity was opened the pedicle was immediately grasped between the thumb and finger or by a rubber covered clamp. The next step was to clear all blood from the peritoneal cavity which was used immediately for autotransfusion. Proper walling off was then carried out and the operation continued in a more leisurely fashion, dividing the ligaments and dissecting the pedicle. It should be borne in mind that these spleens were very large which added to the difficulties of operation. Two deaths occurred, one from uncontrollable hemorrhage on the table and one from post-operative shock.

d) A disease which caused a very high morbidity, chiefly among Chinese and Indian troops, was tropical ulcer. This lesion is of unknown origin although many theories have been advanced. It is a chronic, sloughing, undermining ulcer, most frequently seen in the lower legs, the bony prominences of the mallolei and the dorsum of the foot being most commonly affected. The organisms that are usually recovered are B fusiformis or spirocetes or both. These ulcers tend to occur in the debilitated and malnourished although this is not always the case. They may be single or multiple.

Seagrave recommended the use of 10% saline in glycerin combined with debridement. We found this method on the whole unsatisfactory and had the opportunity to observe some of his cases that had been under treatment for several months, when we took over the hospital at Ramgarh. Our best results were obtained by immediate excision of the ulcer followed shortly by split skin grafts. This resulted in a marked shortening of the period of hospitalization and early return to duty. The work of some of our earlier cases was published in the C. B. I. Medical Bulletin.

e) Because of the prevalence of diarrhea due to dysentery, prolapse of the rectum was a common complaint. It was seen in all stages from a slight mucosal prolapse to a protrusion 6 inches or more in length sometimes with strangulation.

In general three operative procedures were carried out. 1. In the mild form radial excision of the mucous membrane of the lower rectal segment was effective. 2. In the second degree prolapse this relatively minor procedure was not adequate. The rectum was exposed through a posterior incision and the wound packed open with plain gauze and allowed to granulate. This inflammatory reaction had the effect of freezing the segment in its normal position. In some instances a combination of 1 and 2 were carried out. 3. For a third degree prolapse which is essentially an intus-susception of the upper segment, the above operations were of course not indicated. Cure was only affected by a transperitoneal approach with mobilization of the recto-sigmoid region, shortening of the transverse ligaments and obliteration of the pouch of Douglas by purse string sutures of silk or cotton.

f) We noticed a very definite lowered incidence of appendicitis among rice eaters. Although at times our hospital population reached 2,000 cases, acute appendicitis was a rarity in the absence of American troops. When we were caring for Americans the usual high incidence of appendicitis was immediately noted. I was told by one British physician who had been in Burma 15 years that appendicitis did not occur in Burmese. One must question the validity of this statement, but the very low incidence is certainly a fact.

The Treatment of Battle Casualties

Our work with battle casualties was confined chiefly to the Chinese although during our overseas stay we treated a fair number of Americans as well as Indians and British troops.

On the whole we found the Chinese to be good surgical patients who submitted readily to operative procedures which in almost every instance was something entirely foreign to them. I would be stretching the truth if I said they were all good post-operative patients although I would say it without malice. The fact that they were not was due rather to their native curiosity and inquisitiveness than to maliciousness. They removed dressings to determine what lay beneath and cut off casts with their pocket knives, sometimes for the same reason or to relieve some slight discomforts. They did not take their operations very seriously and solved the problem of thrombo-phlebitis by casually getting out of bed and walking about following their operation. We were inclined in a large measure to overlook these caprices because of their unfailing good humor. Surgical operations excited great interest and operations were never in progress day or night without every window of the operating room being filled with Chinese faces. Visitors came in swarms to visit their friends and spying

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empty beds promptly disrobed and spent the night and at times remained for days until a bed count revealed that there were many more beds occupied than there were patients in the hospital. It was also a common occurrence to discharge patients in the morning and to find them occupying their bed that same night. In time most of these irregularities were overcome although stringent measures were sometimes necessary.

So much has appeared in the literature on the treatment of war wounds that anything that I can say is essentially repetition. In general our experience paralleled that of others very closely. At Ledo when we were receiving casualties from the North Burma campaign, our population was between 1,500 and 2,000. All cases were air borne, flying at a maximum altitude of about 10,000 ft. The majority of these cases had had debridement of their wounds before arrival but when the pressure of work was heavy in the forward areas casualties were flown back to us for their initial treatment.

Chest Wounds

We received about 250 perforating and penetrating wounds of the chest. At Ledo we treated 189 cases and detailed statistics were kept. It might be of interest to record some of these figures.

Bullet wounds	95
Shrapnel wounds	88
Bayonet wounds	2
Uncertain	4
	189

Wounds of the right chest	108
Wounds of the left chest	79
Wounds of both chests	2
	189

Abdominal-thoracic wounds	
Right chest	7
Left chest	8
	15

The pathology existing on arrival at our hospital was at follows:

Pneumothorax	19	(7 with tension)
Hemothorax	43	(2 with tension)
Hemo-Pneumothorax	36	(8 with tension)
Hemorrhagic Pneumonitis	78	
Negative Findings	13	
	189	

In this group 22 developed empyema and required drainage. There were 9 deaths, the majority being due to shock, which in most instances resulted from too early evacuation following serious injury or major operations in the forward area.

When dealing with accumulations of air or blood in the pleural cavity the chief aim of treatment was their early removal and rapid re-expansion of the lung. Other methods tend not only to impair normal lung volume but also to delay healing and prolong convalescence. This is a relatively old principle but the war experience brought it more forcibly to the attention of the rank and file of surgeons.

Although a large number of retained foreign bodies in the lung were observed only four required surgical removal. Our criteria for removal of foreign bodies from the lung may be summarized as follows:

1. Asymptomatic: Large foreign bodies lying near the lung root should be removed because of the danger of severe secondary hemorrhage.
2. Symptomatic: The following symptoms occurring either alone or in combinations necessitate surgical interference.

a. Persistent hemoptysis.

b. Persistent chest wall sinus.

c. Recurring localized attacks of pneumonitis in the region of the foreign body.

d. The development of a frank abscess.

The most important part of the surgical procedure is accurate localization. The actual operation is essentially a simple undertaking.

In our entire series we had no wounds of the heart or pericardium. Our one case of mediastinal abscess recovered.

We have nothing to add to the already voluminous literature on gunshot wounds of the abdomen except perhaps to re-emphasize the importance of exteriorization of wounds of the colon and calling attention to the great hazards associated with wounds of the rectum not early and properly treated by obstructive colostomy as an emergency measure, in addition to local debridement.

The wound of entry was occasionally misleading. For example we observed missiles entering the arm which traversed the pleural cavity and wounds of entry on the thigh not infrequently involved the peritoneal cavity.

Gas gangrene was usually associated with injury to the main arterial supply of the limb and in the early days circular bandages applied to dressings beneath a cast was a strong contributing factor. In cases where gangrene was present as a clinical entity, not merely by positive cultures, surgery was the only valuable weapon although serum, x-ray, and chemiotherapy were also utilized. As a rule amputation was required but in an occasional case the removal of entire muscle groups sufficed.

NOTE: *Illustrative lantern slides of surgical cases were shown.*

EXPERIENCES WITH SYMPATHECTOMY*

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FOR the purposes of this paper, the discussion will be limited to the thoraco-lumbar (sympathetic) division of the autonomic nervous system, and to three distinct types of surgical procedures upon this system; namely—lumbar sympathectomy and thoracic sympathectomy for peripheral vascular disease, and thoraco-lumbar sympathectomy with splanchnicectomy — the so-called Smithwick procedure — for essential hypertension.

Definition of sympathectomy: Sympathectomy may be defined as that surgical procedure upon the sympathetic nervous system whereby a portion of the trunk with one or more ganglia are removed.

Historical background: Galen in the second century was the first to refer to the sympathetic nervous system. He was the first to describe the paravertebral sympathetic chain with their several ganglia. J. B. Winslow, the Dutch anatomist in 1732, gave the name "sympathetic" to nerves which he dissected and found to lie without the main cerebral spinal paths. Francois Petit in 1727 made the discovery that the sympathetic trunk originated beneath the skull, and not from the brain itself, as previously thought by Galen and all subsequent anatomists. The detailed anatomy of the autonomic nervous system was first established with the improvement of the microscope and the development of the microtome in 1870 by His. Alexander of Liverpool, in 1889, was apparently the first surgeon to operate upon the sympathetic nervous system. He did a cervical sympathectomy for epilepsy. Others tried this same procedure, but the results were not strikingly successful, and surgical interest temporarily died away. In 1916 a Rumanian surgeon operated upon the cervicothoracic sympathetic nerve in an attempt to relieve the pain of angina pectoris. His first case was brilliantly successful and was the beginning of modern operations for the relief of anginal pain. Leriche of France, in 1913, first called attention to the increased flow of blood in the extremities in peri-arterial sympathectomy. Hunter and Royle in 1924 accidentally discovered that, on sectioning the sympathetic rami of the lumbar trunk, there was a coincident vasomotor paralysis of the extremity on that side with a striking increase in the circulation. This observation has led to the present surgical treatment of Raynaud's disease and other vasospastic disorders by sympathectomy. This operation began to be performed more commonly in this country around 1930, and since that time has dug out a very definite niche for itself in the treatment of peripheral vascular disease.

In the treatment of essential hypertension by sympathectomy, the possibility of a surgical approach was first discussed by Kraus in 1923. In 1930, the first actual splanchnic resection for hypertension was performed by Pieri, and, in that same year, Adson of the Mayo Clinic tackled the problem by a laminectomy and anterior root section, later reporting his technique. Craig (1934) reported a sub-diaphragmatic operation on the splanchnic nerve and Peet (1935) a supradiaphragmatic approach to the same nerve. Celiac ganglionectomy was later advocated by Crowe. Smithwick of Boston has had an experience with a number of these operations since 1935, and now practices a combined supra- and infra-diaphragmatic approach which he has used since 1938. Recently Grimson of North Carolina has advocated a more extensive thoracolumbar sympathectomy and splanchnicectomy, his bordering on almost total thoracolumbar sympathectomy.

Anatomy: The autonomic nervous system may be divided into two main anatonomical and functional divisions, namely, the sympathetic or thoracolumbar outflow which springs from the spinal cord over its anterior roots between the first thoracic and second lumbar segments, and the para-sympathetic or cranial sacral division. The vagus nerve contains the major portion of the para-sympathetic fibers, but others are also present in the oculomotor, facial, and glossopharyngeal nerves. The sacral para-sympathetic nerves leave the spinal cord with the second, third and fourth sacral nerves in the corda equina. It is our purpose here to concern ourselves with the sympathetic division of the auto-

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*Presented at a meeting of the Pawtucket Medical Association, September 28, 1945, at Pawtucket, R. I.

nomic (involuntary or vegetative) nervous system, or those springing from thoracic nerves one to twelve and lumbar nerves one and two. The paravertebral ganglionated chain of the thoraco-lumbar division run on either side of the vertebral column from the base of the skull to the ganglion impar at the coccyx. The individual ganglia are pea sized, fibrous bodies connected together by the so-called sympathetic trunk, a definite structure slightly larger than the lead in an ordinary lead pencil which can be easily felt as well as seen. Branches from the spinal nerves connect with these ganglia, and branches leave the ganglia to supply the various viscera of the body. These chains are lying directly on the bones of the spine, just in front of the transverse processes in the cervical spine, over the heads of the ribs in the thorax, and on the anteriolateral surfaces of the lumbar vertebrae. Each chain has twenty-four ganglia, one for each spinal nerve except for the fifth lumbar, and for five of the cervical segments. These chains fuse in front of the coccyx, and the ganglion impar. In brief, each spinal nerve, as it emerges from its foramen, gives off a white ramus communicans to its corresponding sympathetic ganglion. These myelonated fibers originate in the lateral column of the spinal cord and from the ganglion gray rami of unmyelonated type go out to the visceral structures terminating in smooth muscles and glands throughout the body.

In lumbar sympathectomy where the first, second and third lumbar ganglion and connecting sympathetic trunk are removed, the nerve fibers running to the blood vessels, sweat glands, and hair follicles of the lower extremity on the affected side are interrupted, thus causing maximal vasodilation, the abolishment of sweating, and the inability of hairs to stand erect. No other significant effect is known in the female, but the male, when the operation has been done on both sides, the rhythmical contraction of the ejaculatory mechinism in coitus is lost, although libido erection, and satisfactory orgasm are still present.

In the thoraco-lumbar sympathectomy and splanchnicectomy operation of Smithwick, the thoraco-lumbar chain is removed from T-9 to L-3 inclusive taking the greater, lesser and least splanchnic nerves as well. This produces a preganglionic type of sympathectomy for all structures beneath the diaphragm bringing about the maximal vascular bed and thus reducing the blood pressure.

In conclusion then, the sympathetic nervous system innervates non-striated muscles, and glands which are not under the control of the voluntary nervous system of the cerebral cortex. These compose the pseudotory and digestive glands, the heart and blood vessels, as well as tubular viscera, such as, the oesophagus, trachea, bronchi and the gastro-intestinal and genito-urinary tracts. Each of these structures as a rule received a dual innervation, one from the cranial sacral division of the para-sympathetic system, and the other from the thoraco-lumbar outflow of the sympathetic system, and these tend to oppose each other.

Physiology: Cannon in 1929 removed the sympathetic ganglionated chains in cats on both sides from the neck to the lower lumbar region. These animals who had undergone total sympathectomy were able to live in a sheltered environment in the laboratory in good health for many years. They became very sensitive to cold, and lost their ability to conserve heat. Erection of the hair was permanently lost. Ability to perform muscular work and to resist fatigue were considerably reduced. The digestion was unchanged. The heart rate was only slightly slowed. The metabolism was reduced approximately ten percent. These cats became pregnant and could reproduce in a normal manner, but were unable to nurse.

In conclusion, the sympathetic nervous system should be considered as an emergency safe-guard, not always operating, but ready to go into action when called upon. Such stimuli as pain, hemorrhage, asphyxia, infection, dehydration, extremes of temperature, intense emotion or psychic trauma may call it into action.

Under certain pathological conditions, this mechanism may cease to function properly. As an example, some people may suffer from chronic vasoconstriction, their hands and feet being constantly cold and moist from excessive perspiration. In others, the heart may speed up at the slightest stimulus, or food may not pass along the gastro-intestinal tract at a normal rate. When such conditions continue, we have the disease entities, such as, Raynaud's disease, neurocirculatory asthenia, cardiospasm, pylorospasm, megacolon, and many other vague symptoms without a definite diagnosis. By paralyzing the nerves which bring these conditions about, such pathological entities are now being brought under control.

Lumbar sympathectomy: Lumbar sympathectomy is the removal of the first, second, and third lumbar ganglia and connecting sympathetic trunk on one or both sides. It is the therapeutic procedure of choice in most cases of Raynaud's disease, Buerger's disease, arterio-sclerotic impending gangrene with or without diabetes, chronic ulceration of the extremities, vasospasm of nervous origin, hyperhidrosis of nervous origin, and thrombophlebitis.

When confronted with any one of the before mentioned diseases, certain simple tests can be utilized to determine whether or not lumbar sympathectomy or paravertebral injection of the lumbar sympathetic ganglion are indicated. Sympathetic activity is best judged clinically in an extremity by its ability to vary in temperature and

moisture. A leg or foot which on one day is relatively warm and pink, and on another cold and clammy white shows distinct evidence of hypersympathetic activity. All we can hope to accomplish by sympathectomy is abolishment of the vasospasm and sweating, and in an extremity where clinically we can find no evidence of vasospasm, we are gambling if we think to relieve it by sympathectomy. Certain tests have been devised which give an indication of whether or not sympathetic activity exists. These include skin temperature readings before and during spinal anesthesia or paravertebral lumbar injection, oscillometric recordings taken before and after paravertebral injection, sweating tests, foreign protein injection reaction tests et cetera. It can now be generally stated without reservation that most such tests are without great value for the simple reason that they are not sensitive enough to serve in the border line cases. Clinical judgment has once again come into the ascendency and here experience with many such cases is a telling factor. Suffice it to say that sympathectomy, or any other surgical procedure short of amputation, can not be expected to be helpful where gangrene has already set in, but in threatened or impending gangrene much can still be done. Then again there is a considerable difference in gangrene of a toe in Buerger's disease as compared with the same gangrene in a toe of an arteriosclerotic diabetic. In a Buerger's disease, which has advanced to the point of gangrene of the toe, one would expect the oscillometric recording to be generally zero from the knee down, but in the case of the arteriosclerotic diabetic, there might or might not be good major vessel pulsation even down to the ankle. Depending on the blood supply and whether there was any evidence of vasospasm, such as, slight changes in skin temperature and some evidence of moisture, one would decide on whether or not to do a lumbar sympathectomy. In fifty percent of the cases which appear hopeless, sympathectomy has been known to save the extremity or, at least, markedly postpone amputation, and do much for the relief of pain. One can always amputate a leg, but never put it back once removed so that, in case of doubt, a patient should be given the benefit of a sympathectomy if there is the least chance that it might be helpful.

The Operation: The operation itself is a relatively simple brief surgical procedure consuming approximately forty minutes to perform and confining a patient to bed only three or four days, and that in essentially complete comfort. The operation is performed under spinal anesthesia with the patient lying on the opposite side in the kidney position with the thighs flexed and the space between the superior crest of the ilium and the twelfth rib put on the stretch. A kidney type of incision is made in this region, the lumbodorsal fascia split, and the space lying in front of the quadratus lumborum and psoas major muscles developed until the lumbar sympathetic trunk can be seen and felt lying to the medial side of the psoas major on the anterior lateral surfaces of the lumbar vertebral bodies. It is then a relatively easy matter to resect the first three lumbar ganglia and trunk.

The effect of this procedure is immediate and permanent. The lower extremity on the affected side becomes dry and warm, and in cases where there had been previously marked vasospasm, the oscillometric recordings will increase anywhere from twenty to fifty percent. Even in severe cases of Buerger's disease, marked by cramplike intermittent claudication in the lower extremities, oscillometric recordings can be expected to improve surely but slowly over a period of many months, bringing to the patient that maximal circulation which can be expected to preserve the extremity. The operation itself carries with it no mortality and practically no morbidity. Such patients may be gotten up out of bed on the third or fourth day after operation, if desirable, and all of them will be more than grateful for the warm dry extremity and relief from pain.

Thoracolumbar sympathectomy and splanchnicectomy: Hypertension in man may be classified under five main groups, namely, endocrine, cerebral, cardiovascular, renal and the so-called essential or unknown group. Such diseases as chronic pyelonephritis, tumors of the pituitary or adrenal glands, coactation of the aorta, brain tumors, — all must be ruled out before a diagnosis of essential hypertension can be established. Essential hypertension, however, constitutes the largest group of all, and, as a cause of death, is several times more common than cancer. There is no known medical treatment yet discovered which can importantly affect the onward march of this dread disease. Suffice it to say that we do not know its cause, and there are many theories which have been evolved.

The history of the surgical treatment of this disease has been discussed. It is now no longer on an experimental basis. The so-called Smithwick procedure or thoracolumbar sympathectomy and splanchnicectomy is today recognized as the best surgical procedure for the relief of these patients. It is important to know, however, when the operation is indicated and when it is not indicated, and, because of mistakes along these lines, unfavorable cases have come to the attention of the medical profession.

Tests for determining operability: 1. The patient should have undergone a thorough medical workup which has definitely established the diagnosis of essential hypertension. 2. The response to the usual medical therapy should have been

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utterly unsatisfactory. 3. There should have been no permanent damage done to any of the vital organs for one cannot expect to significantly restore vital organs to normal by surgical procedures. 4. These patients in general should be under the age of sixty years although the numerical year is not as important as the physiological age. 5. The tests which are routinely done, at the present time, in addition to the above, to determine operability and to help in classifying the patient's condition and in estimating the prognosis, are as follows: a. Eye-ground examination. This is very important as it classifies the patient's blood vessels and, hence, groups them into four different divisions. Group 1. Those with constricted changes in the retinal vessels only. Group 2. Those with constricted changes, and, in addition, tortuosity and nicking of the veins. Group 3. The above previous changes, and, in addition, exudate and hemorrhages. Group 4. In addition to the above, papilledema. Groups one and two are the favorable cases for operation, three borderline, and group four should be denied surgical help except in extreme instances, and, these, usually without success. b. The heart should undergo extensive investigation including x-ray studies and electro-cardiography. Significant permanent heart damage, especially with evidence of failure, is an unfavorable prognostic sign. c. The kidney function should be estimated including the routine urinalysis. Fishberg dilution concentration test, phenosulfothalin test, and intravenous pyelogram. d. The Sodium Amytal test or the giving of three grains of Sodium Amytal every hour for three hours estimating the blood pressure at the outset, and for eight hours, thereafter, on an hourly basis should show an ability of the blood vessels to relax with marked fall in pressure if a favorable outlook can be anticipated. e. The cold pressor test or the plunging of an upper extremity into a bucket of ice water and reading the blood pressure before and every thirty seconds for one minute, and then at minute intervals for three or four minutes should indicate an ability of the blood vessels to go into spasm with a prompt and immediate rise of both diastolic and systolic pressures considerably above the resting level dropping rapidly to normal again after withdrawal.

Satisfactory responses to these tests indicate a patient whose prognosis following such an operative procedure would be good.

The operation: Thoracolumbar sympathectomy and splanchicectomy, although a more major and complicated procedure than lumbar sympathectomy, nevertheless, carries with it a practically negligible mortality, but a definite period of morbidity. The same position of the patient on the operating table is used, the incision, however, extending upwards as high as the eleventh rib running parallel to the lateral border of the sacrospinalis muscle group after reaching the junction of this muscle and the twelfth rib. Intratracheal cyclopropane anesthesia is the one of choice because there exists the possibility of opening the pleura with consequent collapse of the lung unless this precaution is taken. The eleventh and twelfth ribs are resected and the space both below and above the diaphragm developed; the pleura being stripped away from the posterior thoracic cage, and the sympathetic trunk along with the splanchnic nerves identified. The sympathetic trunk is cut across at T-9 or T-10 and removed down to and including L-2 or L-3. The greater, lesser, and least splanchnic nerves are taken encourse down to their attachments into the various ganglia below the diaphragm. The operation is done in two stages ten days apart. It consumes approximately two hours, and the patients make a uniformly, surprisingly splendid convalescence usually being able to sit up on the fourth or fifth day following the first stage and on the eighth or ninth day following the second stage. After the second stage, steps must be taken to combat the postural hypotension which develops with the upright position. These include tight bandaging of both lower extremities, and of the abdomen using a pillow or rubber sponge pad in the latter region. The organism accommodates itself to this mechanism in one to four months when such precautions may be abandoned.

Thoracic sympathectomy: This operation has been done chiefly for Raynaud's disease, vasospasm of nervous origin or hyperhydrosis of nervous origin where denervation of the upper to correct this condition is indicated. It is the most difficult technically of the various types of sympathectomies which are done, but from the patient's standpoint is the easiest, the one most free from pain and morbidity.

With the patient lying in the prone position, anterior chest supported by pillows so that the shoulders and arms fall forward giving the maximum space between the medial borders of the scapulae, and with the head bent slightly forward so there are no wrinkles in the neck, and with no pressure on the abdomen, an eight centimeter incision centered opposite the space between the second and third thoracic spinous processes five centimeters lateral to the midline is made. The skin and subcutaneous tissues are cut through. The trapesius muscle split transversely, and the rhomboid muscle likewise split, and five centimeters of the third rib are resected including the tip of the transverse process. The third intercostal nerve is picked up at the lateral border of the incision, cut across and dissected up as far as the intervertebral foramen. The sympathetic trunk is located, and cut below the third dorsal ganglion, and turned upwards above the second dorsal gan-

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THE SURGICAL PLAN FOR RHODE ISLAND

IT IS with a great deal of pleasure that I, as President of the Rhode Island Medical Society, announce that the House of Delegates, policy-making body of the Society, at a meeting held on September 25, gave its wholehearted endorsement of the proposed voluntary prepaid surgical insurance plan that has been drafted by a steering committee of the Society and the Hospital Service Corporation, with the understanding that the service rendered under the program shall be by doctors of medicine.

From the very beginning of the study of a non-profit plan to aid the public in the better distribution of the costs of medical and surgical care the Society has taken active leadership. In accepting, under the proposed plan, the responsibility for the services to be given the subscribers the Society is deeply conscious of the tremendous obligation that it has to the public to see that the slightest standards of professional competence are maintained at all times. The House of Delegates is determined that that obligation shall be discharged to the best of our ability, and therefore it voted at the meeting this week that it requires that participating physicians in the plan shall be those licensed by the board of examiners in medicine under the laws of this state, and that non-participating physicians shall be those licensed by the board of examiners in medicine in this state, or in any other state by a comparable board of examiners in medicine.

For thirty years medical schools and hospitals have had to meet high standards set by the American Hospital Association and by the Council on Medical Education and Hospitals of the American Medical Association if they are to be approved institutions. Those standards must be maintained continuously, and even improved from time to time, if the recognition is to be retained. In addition, the medical profession from time to time established increasingly rigid requirements through specialty boards for the doctor of medicine who would qualify by examination and experience for rating as a specialist. All these programs have been carried forward in the best interest of the public. The Rhode Island Medical Society therefore has reserved the right to require that any service rendered the people of this state under a medical and surgical plan with which it is affiliated and for which it assumes definite responsibility, shall be in accordance with these high standards.

Ever since the former Governor, Honorable J. Howard McGrath, proposed to the Rhode Island Voluntary Advisory Council in April, 1944, that the Rhode Island Medical Society was the proper organization to devise a medical and surgical prepaid voluntary plan for this State, and that it should be given exclusive right to plan, organize and operate such a program, the Society has devoted much time and effort to the project. We are indebted to

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those of our own membership who gave unstintingly of their time and energy to work out details of the plan, as well as to the officials of the Hospital Service Corporation and the representative citizens who cooperated fully with us in our efforts.

It is to be recalled that after the words of encouragement from former Governor McGrath, and the statewide Advisory Council, the Society elected six of its members who in turn selected as lay members of the study committee Messrs. Roderick A. Pirnie, George C. Davis, and Charles Baker, all of Providence, Harold Amrhein of Woonsocket, and Ralph Kenyon of Pawtucket. This group accumulated much data on surgical plans then in operation in other parts of the country, and through their study laid the foundation for the plan now proposed. Their findings, recommending a close alliance with the Blue Cross plan to simplify the administration of the program, were accepted by the House of Delegates of the Society. This committee also prepared enabling legislation that the Society had introduced in the General Assembly a year ago which received the approval of that body.

Continued studies by a steering committee of the Society and of the Hospital Service Corporation resulted in the action by the House of Delegates whereby the Hospital Service Corporation was granted permission by the Society to change its Articles of Association to take over complete administration and operation of the plan. Prior to the granting of such permission, it was agreed that the board of directors administering the plan should have a medical representation on a ratio of one doctor for every four directors, and that the drafting of the schedule of indemnity benefits should remain with the Society.

The Society has elected its representatives to serve with the board of directors. A special committee has studied non-profit surgical plans throughout the country and has drafted the schedule of benefits for Rhode Island that is comparable to the average, thus assuring that our plan, in so far as is predictable at this time, shall operate at a minimum expense, even to the extent of reducing the payments to the participating physicians if the solvency of the fund is threatened.

If there are flaws in the proposed plan, time and experience will have to be our guides for correction of them. Certainly every effort has been made to present a workable non-profit voluntary program within the economic reach of every employed person in the state to aid him in meeting the costs of surgical care in and out of the hospital. We are confident that the medical profession of Rhode Island will give the plan complete support once it is finally approved by the board of directors of the Hospital Service Corporation.

HERMAN C. PITTS, M.D., *President*
Rhode Island Medical Society

September 27, 1946

HONOR FOR DR. BURGESS

Dr. Alex M. Burgess has just been made a member of the American Board of Internal Medicine.

There is a determined effort being now made in this country to put the practicing of the specialties on a higher plane. If this effort succeeds, as it apparently will, the result will be that in the not distant future only those men approved by the various boards will have any standing as specialists. Already the Board of Internal Medicine has gone a long way in achieving their desired results.

The Board of Internal Medicine was originated by the American College of Physicians in collaboration with the American Medical Association and consists of a dozen members. With the exception of Dr. Burgess these are all professors in great medical schools and, we understand, are nearly all heads of their departments.

Dr. Burgess has shown in the past that he is well qualified to fulfill the duties of his new position. Soon after graduating from Harvard Medical School and working under the late Dr. Mallory in Pathology, he held a professorial position in this department at McGill. As Chief of Staff in Medicine at the Rhode Island Hospital he has taken a leading part in the determined effort being made to advance the standard of work done by medical men at that institution. Thus, he has had much experience in teaching and the corollary of this, the examining of young men and the appraisal of their training and abilities which is the especial function of the Board.

We feel that he is unusually fitted to associate with leaders of the profession, and it seems especially valuable that the Board should have the viewpoint of a man working in a large community and a progressive hospital but still not in an environment of pedagogues.

We congratulate Dr. Burgess on the recognition he is receiving, and we rejoice that one of our Society members is so signally honored.

THE KENNEY FOUNDATION DRIVE

The recent series of articles in the *Providence Journal-Bulletin* on the question of need for a national voluntary health fund, with particular study of the activity of the National Foundation for Infantile Paralysis, had hardly been reprinted when we were faced with the news announcement of the planned campaign of the Kenny Foundation. Undoubtedly confusion will exist in the mind of the public, as it did in ours, when this second drive for funds for aid to polio sufferers is launched.

In an effort to secure some clarification of the problem we have sought information from the National Foundation for Infantile Paralysis. Their answer is reprinted below. We agree with the statement that "this is a free country, and anybody has a

right to run a drive for any cause", but we think it is high time that the public be fully informed of all details regarding any existing or proposed campaign for funds that are sought for health interests, and that duplication of efforts be minimized for the advantage of the giver, as well as for the protection of the receiver.

The answer to our inquiry to the National Foundation for Infantile Paralysis is as follows:

"The National Foundation for Infantile Paralysis does not establish standards for medical care or treatment of infantile paralysis. Each state has its own laws regulating the practice of medicine. The National Foudation assumes that these laws are acceptable to the people of the states who made them. Such laws, therefore, are acceptable to and will be followed by the National Foundation.

It is our policy to pay for the medical care of infantile paralysis only in those cases treated by physicians who are duly licensed to practice medicine and surgery in the states where the treatment is rendered. We make no effort to interfere in the patient-physician relationship. The type of treatment prescribed is entirely up to the doctor.

In view of the foregoing, you can see that as an organization we have no viewpoint toward the Sister Kenney treatment, other than to recognize that it is being given in a great many hospitals throughout the country, and necessary equipment and personnel for giving it, when prescribed by physicians, is paid for by National Foundation Chapters. In Minneapolis this summer the Chapter already has paid more than $30,000 to the Kenny Institute for the care of infantile paralysis patients whose families could not meet these expenses without assistance.

We have advanced from the New York headquarters to the Polio Emergency Committee in Minneapolis a total of $240,000 thus far. To the whole State of Minnesota we have sent $551,555.

In regard to your question about how we view the Kenny Foundation drive schedules for November, I can only say that we have no connection with it. This being a free country, anybody has the right to run a drive for any cause.

I suppose you have been somewhat confused by the statements attributed to other than the National Foundation stating that the medical profession and the National Foundation are "against" the Kenny treatment. This statement has no basis in fact. The vast majority of patients whose medical and hospital bills have been paid by our Chapters are receiving hot packs and physical therapy, which are the essence of the modern treatment of infantile paralysis. Miss Kenny, whose first work in this country was financed by grants from the National Foundation to the University of Minnesota, has played an important role in popularizing this kind of treatment. It is estimated that at least 85 per cent of the physicians treating infantile paralysis today use the modern method."

PROGRAM ON THE CARE OF THE HEART

Interest in the control of heart disease is currently being enhanced by the efforts of many professional and lay groups. This attention to heart ailments has long been warranted. The public is becoming more acutely aware of cardiac hygiene than ever before — a growing interest that should be cultivated and guided with judgment as well as vigor.

During the past third of a century, the improvement in mortality from heart disease was most pronounced in the younger age groups and decreased progressively with advance in age. The death rate from diseases of the heart and arteries, corrected for the ageing of the population, dropped virtually 30 percent between 1911-15 and 1940-44, according to experience among the Industrial policyholders of the Metropolitan Life Insurance Company. This reduction in mortality from the principal cardiovascular-renal diseases has been particularly marked among white females — 37 percent in the above-mentioned period. Among the males, the decrease in mortality, while not as marked as among the females, was 25 percent, still a quite substantial reduction. This still leaves much to be desired in the field of early diagnosis and immediate initiation of adequate cardiac regimes in order to reduce to a minimum incapacity and mortality from these conditions. Concentration of effort must now be placed on teaching the public what is known about prevention, early recognition, and care of cardiac lesions.

In order to assist in the attainment of this goal, the Metropolitan Life Insurance Company is conducting a special campaign on heart disease during the fall and winter months. At that time, the Company's more than 20,000 Field Representatives, in cooperation with official and voluntary agencies, will reach the homes of millions of policyholders with a recently published pamphlet, YOUR HEART, developed in cooperation with the American Heart Association. A lay educational film on heart disease is also being prepared. Distribution will be made to physicians of a packet in which will be included material of special interest to doctors, and a scientific exhibit on heart disease, first shown at the A.M.A. meeting in San Francisco, is available for State and local professional meetings.

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PROLONGED ENDOTRACHEAL OXYGEN

A Case Report

ORLAND F. SMITH, M.D. *and* LT. COMDR. ROBERT E. DOUGLAS, MC, USN

The Author. *Orland F. Smith, M.D., of Pawtucket, R. I., Transfusionist and Junior Assistant Surgeon, Memorial Hospital, and Assistant Surgeon, Out-Patient Department, Rhode Island Hospital. Lt. Comdr. Robert E. Douglas, MC, U. S. Navy, of Somerville, Massachusetts.*

THE combination of circumstances that will occasionally arise to harass the surgeon constitutes a favorite topic of conversation at all surgical gatherings, large and small. The unusual case is the one that frequently teaches us most, and unquestionably serves to help both surgeon and patient when a situation that is even remotely similar is again presented.

Spinal anesthesia during the past decade has become the anesthetic of choice in abdominal surgery in many clinics and hospitals. The degree of perfection which the anesthesiologist has attained in managing his patient has undoubtedly helped to create a more careful and methodical type of surgeon, with the obvious survival of many patients who, a few years ago, were doomed to become operating room casualties. The era of watching the clock has long since passed, and the individual at the head of the table is assuming the place he has so rightfully deserved for so many years. There is little question in my mind that the progress in anesthesia of all types during recent years represents one of the greatest single advances we have made in general surgery. This is not a new thought, but has not been expressed sufficiently often in surgical literature and in the classroom to emphasize adequately the need for that meticulous attention to detail which the pioneers in the field of anesthesiology have struggled so long to establish. The following case report will demonstrate some of those details.

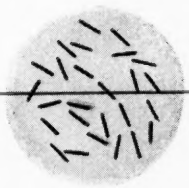
R.H.O. Case No. 9064.

A well developed and well nourished 19 year old male entered the hospital complaining of abdominal pain following the discharge of a rifle bullet into his upper abdomen one hour before admission. His history otherwise was essentially not remarkable.

On admission to the hospital the physical examination showed an extremely drowsy patient, who could be easily roused. His skin was pale and his pupils were contracted. The history accompanying him stated that he had been given 16 mg. of morphine sulphate subcutaneously, forty-five minutes prior to entry. His abdomen was exquisitely tender and rigid throughout. The bullet entrance wound, one half inch in diameter, exuding dark blood, was observed in the upper left quadrant, just above the umbilicus, and lateral to the linea semiluranis. The exit wound was larger and more ragged, two inches from the midline of the spine on the left, at the level of the iliac crest. His pulse was steady at 100, and blood pressure 126/80. His physical examination was otherwise essentially normal. A flat plate of his abdomen was reported negative for demonstrable soft tissue pathology and pneumoperitoneum.

He was immediately taken to the operating room and prepared for abdominal exploration. At 12.45 P.M. he was given another 16 mgm. morphine sulphate sub-cutaneously, with 0.4 mgm. atropine sulphate. At 1.55 P.M. he was given 20 mgms. pontocaine plus 2.5 cc. 10% dextrose solution between L4 and L5, through an hematoma in the tissues surrounding the wound of exit. The rate of injection was 1 mg. per second for twenty seconds with the patient in ten degrees Trendelenberg position. One-half cc. neo-synephrin was given intramuscularly. The table was levelled in 65 seconds, and at the end of two minutes the anesthetic had reached T3. A previously prepared plasma transfusion was started via the right ankle. Projectile vomiting of a large amount of coffee ground material occurred at 2.03 P.M., followed by immediate cessation of respirations. Blood pressure zero, pulse not obtainable, and cardiac sounds not audible. Artificial respirations were started immediately via face mask. The skin was moist, cold, but pink about the lips. All reflexes including corneal were absent, and cardiac sounds were inaudible. Vomitus was aspirated through an oral airway which was inserted at 2.07 P.M. At 2.12 P.M. a McGill intratrachael tube was inserted and converted to the C0 2 absorption filter with 100% Oxygen, using the bag as a closed respirator at 17 respirations per minute. The plasma was continued, and during the following fifteen minutes he was given 13 cc. of intravenous Coramine. Both bronchi were aspirated of a small

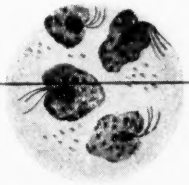
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pH 3.8 to 4.4

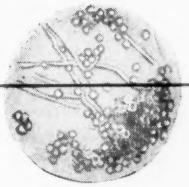
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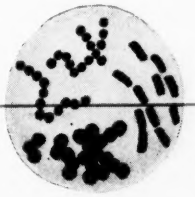
pH 5 to 6

TRICHOMONAS VAGINALIS



pH 5.5 to 6.8

MONILIA ALBICANS



pH 5.8 to 7.8

STREPTOCOCCUS, STAPHYLOCOCCUS, ESCHERICHIA COLI



pH 6.8 to 8.5

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SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

PROLONGED ENDOTRACHEAL OXYGEN

continued from page 754

amount of blood tinged watery fluid. The lips continued to remain pink. Fifty minutes after closed respirations were started a corneal reflex was obtained. At 3.10 P.M. he gave his first spontaneous abdominal gasp, and commenced rhythmic respirations five minutes later. The intra-trachael tube was removed at 3.20 P.M., and ½ cc. of neo-synephrin given intra muscularly. His pulse was palpable for the first time immediately after his first voluntary respiration. Heaters were applied, and the patient was quite comfortable until 4.30 P.M., at which time he again began to complain of abdominal pain. Another 16 mgm. of morphine sulphate was given. At 4.45 P.M., he still had slight skin anesthesia to T6. At this time the spinal anesthetic was repeated, using 150 mgm. procaine via T4-T5. He was then held in 10 degrees Trendelenberg for two minutes, with no greater height of anesthesia than the T6 level. Five hundred cc. of whole blood and 250 cc. of plasma were started at this time.

A left rectus muscle splitting incision was made at 4.55 P.M. entering the peritoneal cavity without difficulty. The latter was filled with blood. Two perforations in the stomach, one-half inch from the greater curvature were closed with two layers of 00 chromic catgut in each, and reinforced with interrupted silk. The small bowel was examined and two perforations were found ten and twelve inches from the Ligament of Treitz. These were closed in in a similar manner as the stomach. The entire small bowel and large intestine were examined and no additional pathology could be found. A small tear in the mesentery was found a foot below the lower wound, and had missed the bowel at this point by one-half inch. The wound of exit was seen at the base of the mesentery, on the lateral border of the psoas muscle. The liver, spleen and kidneys were palpated and no abnormality found. Likewise there was no apparent damage to the bladder or ureter. 100,000 units of penicillin and five grams of sulfanilimide were placed in the peritoneal cavity and the peritoneum closed tight. A rubber tissue drain was placed to the peritoneum after excising the muscle damaged by the bullet. The skin was closed with interrupted black silk. During the elapsed time in the operating room he was given 1000 cc. plasma, 500 cc. whole blood, and 13 cc. intravenous coramine.

He was returned to the ward, placed in an oxygen tent at six litres, and a Levine tube on Wangensteen suction inserted intranasally into the stomach. During the following twenty-four hours he was given 30,000 units of penicillin every three hours, 5 grams of sodium sulfadiazine in 1000 cc. of normal saline, 1000 cc. 5% dextrose in water, and 1000 cc. 5% amigen in 5% glucose intravenously. Oxygen was discontinued at the end of twenty-four hours. His gastric drainage during the first 36 hours was 2040 cc. At the end of 36 hours the Levine tube was clamped off on alternate hours, and he was given one-half ounce of water by mouth every half hour. The suction drainage amounted to 1410 cc. during the next twenty-four hours. The penicillin, sulfadiazine, and intravenous fluids were discontinued after forty-eight hours. His fluid intake by mouth was increased to 1 ounce of water every half hour on his third day. His urinary output was 1805 cc. during the first thirty-six hours, and remained above 1200 cc. daily thereafter. On the fourth day the drain was removed from the wound, and water by mouth increased to two ounces. On the fifth day he was given a glycerine and water enema with a good flatus and fecal result. A 5th day Balfour diet was started and well tolerated. The Levine tube was removed on the third day, and inserted at twelve hour intervals for measurement of the gastric residue. This was repeated only twice, as the residue amounted to less than 20 cc. each time. On his seventh day he had a normal bowel movement. The total dosage of penicillin was two million units. The sutures were removed on the seventh day, and he was allowed out of bed. On his ninth post-operative day he was on a full house diet.

A G.I. Series on his fifteenth day disclosed a temporary dilation of the third portion of the duodenum, which emptied rapidly thereafter. No definite obstruction could be found in the 1st portion of the jegunum. The stomach was empty at the end of five hours, and the motility of the small bowel was normal. The remainder of his convalescence was uneventful, and he was returned to the U. S. A. at the end of one month for further rest.

Comment

The course taken by this patient after such a desperate situation is unquestionably unusual. To run an uncomplicated course was naturally most gratifying to all concerned, and at the same time entirely unexpected. The reaction following the introduction of the spinal anesthetic was undoubtably due to the latter, although the symptoms were not entirely classical. In view of the complete recovery after such a long time with no evidence of life, it is not reasonable to assume that so many physiological fundamentals could be so flagrantly violated without having many questions arise. The decision to use spinal for the second time in this patient admittedly needed courage, but we had nothing better. The case is presented solely for its clinical interest, as well as to demonstrate the value of prolonged effort in resuscitation.

continued on page 761



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Q. Will Baby like these soups?

A. If he is like most babies, he will. Mothers who have tried Campbell's Strained Baby Soups say that they are better-tasting—that Baby takes them readily and appears to enjoy their tempting, normal flavors. Each soup retains to the utmost the natural flavors of the meats and vegetables employed. The texture is smooth and the consistency uniform and pleasing to the infant.

Q. Why five kinds?

A. Doctors agree that it's important to get Baby accustomed to a variety of flavors early in life, so that he will accept all foods readily and will not develop "fussy" eating habits. Also, it takes many different foods to supply the approximately 40 nutrients needed for infant development and energy—hence we use vegetables and a cereal in the preparation of each one of our four meat soups.

Q. What about vitamin and mineral retention?

A. The latest scientific information has been drawn upon in developing a cooking method which insures the efficient conservation of vitamins and the retention of minerals. A comprehensive analysis of each soup may be had upon application to Campbell Soup Company, Camden, N. J.

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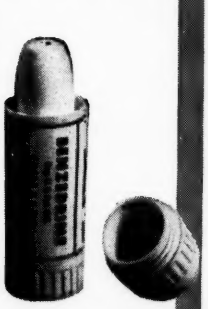


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Shambaugh, G. E., Jr.: J. Iowa M. Soc. 31:375.

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PROLONGED ENDOTRACHEAL OXYGEN

continued from page 756

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NARCOTIC REGULATIONS

The report that in various communities of the country there have been violations of the Federal narcotic law and regulation by druggists in accepting narcotic prescriptions over the telephone prompts the publication of the following Article 172 of Regulations No. 5 of the federal law:

"ARTICLE 172: Telephone Orders: — The furnishing of narcotics pursuant to telephone advice of practitioners is prohibited, whether prescriptions covering such orders are subsequently received or not, except that in an emergency a druggist may deliver narcotics through his employee or responsible agent, pursuant to a telephone order, provided the employee or agent is supplied with a properly prepared prescription before delivery is made, which prescription shall be turned over to the druggist and filed by him, as required by law."

Physicians are urged to comply with the Federal narcotic law by writing all naroitic prescriptions with ink or indelible pencil and not to request or expect the druggists to violate the above regulation.

Further, physicians are reminded that it is a violation of the Federal narcotic law for a druggist to refill a narcotic prescription. If a druggist fills an order for narcotics reading "Refill Rx No. ....," he is refilling a narcotic prescription and would be in violation of the law.

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THE IMPORTANCE OF THE X-RAY DEPARTMENT

EMANUEL W. BENJAMIN, M.D.
Radiologist, The Memorial Hospital, Pawtucket

IN November 1945, the world at large celebrated the 50th anniversary of the discovery of the roentgen ray. This span of years is short enough so that a great number of people alive today have seen the continuous and vast progress which this discovery initiated. Year by year, and with increasing speed, improvements and advances along technical, therapeutic and diagnostic lines have taken place. This specialty has annually contributed more and more to the diagnosis, treatment and prevention of disease, so that at the present time the x-ray department constitutes an integral and indispensable part of the physicians armenentarium in the endless warfare against disease. This is particularly so in hospitals.

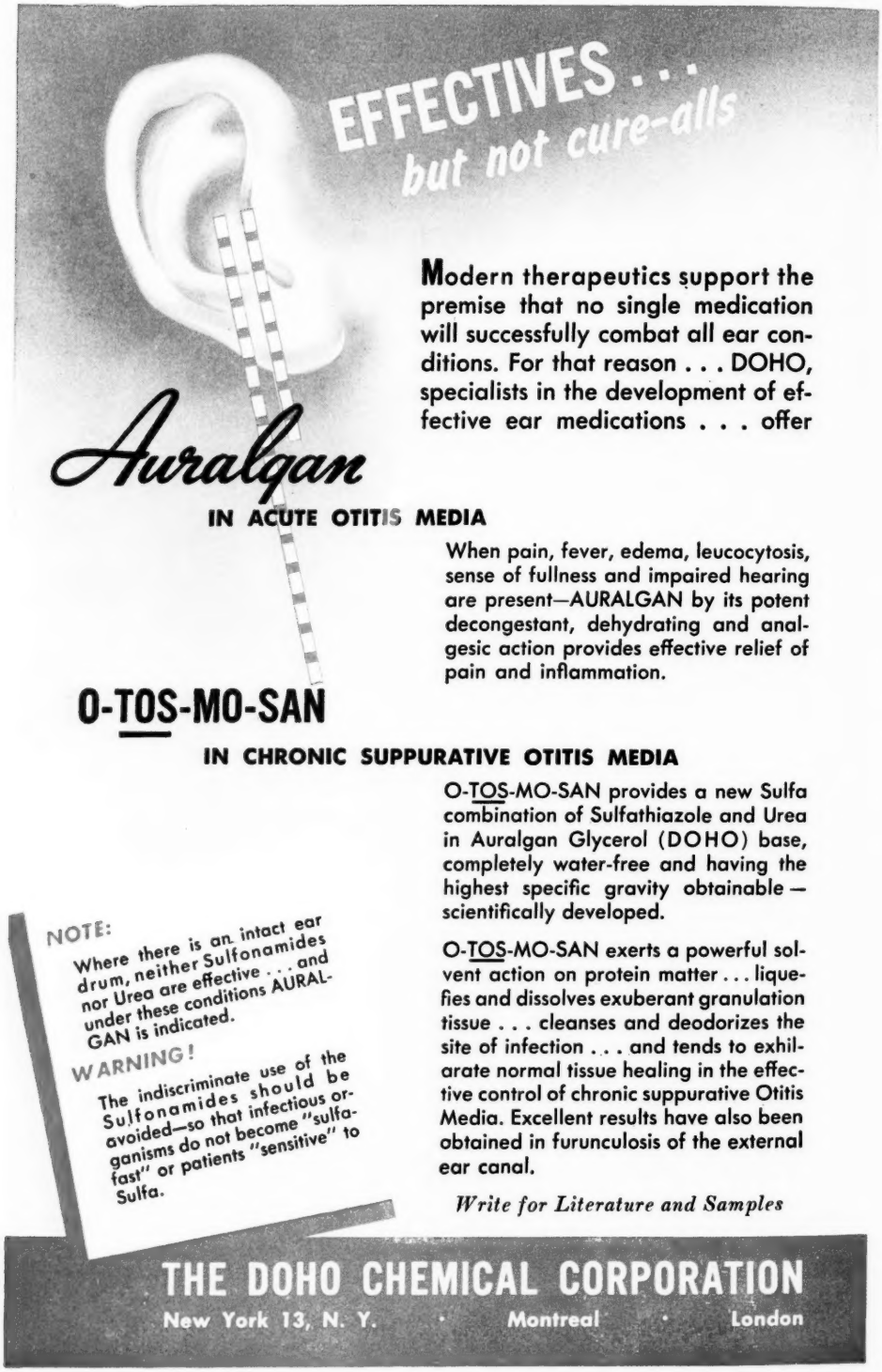
About seven years ago, the trustees at the Memorial Hospital, after long study, decided on the erection, operation and maintenance of a *new* x-ray department which was a direct recognition of the importance that this specialty had come to play in medicine. Accordingly, and with great foresight, an x-ray department was laid out without any encumbrances due to previous installations, and adequate consideration was given for future expansion. The most modern equipment and installations were provided and these have been replaced in recent years as new and better equipment was made available. In addition, the trustees very wisely saw fit, on recommendation, to allot a large floor space for a demonstration room. This demonstration room is a relatively new thought for an x-ray department and has in the past been held to be more or less of a waste of valuable space, and a needless and expensive appendage. However, during the years this room has come to be a focal point of interest in the hospital and has fully compensated for any effort entailed. It provides comfortable seating capacity for thirty-five to forty people, and is a meeting place for physicians of the various services where they obtain a clearer understanding regarding the diagnostic problems involved in x-ray, with the ultimate, perhaps intangible benefit to the patient. Furthermore, in the early years of the tumor clinic, this room served as a meeting place for this new service.

The department, as stated, was planned with a view to the future, particularly in anticipation of the establishment of the tumor clinic. This clinic is a particularly noteworthy effort in the public service for the diagnosis and treatment of cancer, particularly since the x-ray department plays such an important role in this field.

The department comprises a floor space of 3,758 square feet and is composed of two diagnostic rooms, one of which is equipped for fluoroscopy, a cystoscopic x-ray and operating room, and a deep x-ray therapy room. The radium room, originally a part of this department, was moved elsewhere to make facilities more conveniently available to the main operating corridor. In addition, there is a large waiting room, record room, doctor's disrobing room, dark room, as well as a small office for the radiologist and adequate facilities for storage of films and other records. Several other rooms, including the radiologist's office and a small accessory waiting room, are incorporated in the department, which, if necessary, can be later converted to provide another x-ray room.

The department during the past seven years has been able to absorb the marked increase in the demands put upon it by the general services and private wards, as well as the active tumor clinic. During this period of time, the work in the x-ray department has more than doubled and this year alone an additional twenty-five percent increase has been experienced.

These remarks have been set down to indicate the importance of the x-ray department in a general hospital, and to stress the value of a far-sighted policy as shown by the progressive attitude of the trustees who, incidentally, permitted the department to be laid out from the standpoint of the radiologist and other physicians of the staff, resulting in an efficient x-ray service for the patient.


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EXPERIENCES WITH SYMPATHECTOMY

continued from page 750

glion. All connecting branches to the sympathetic trunk, from the intercostal nerves, second and third, are severed, and the intercostal nerve itself is cut across just proximal to the dorsal root ganglion. The second intercostal nerve is treated in like manner. This procedure produces a preganglionic type of denervation of the upper extremity on the side performed, and if properly done gives a very splendid enervation of that extremity almost equal to the satisfactory results produced by lumbar sympathectomy. There is, however, a greater tendency of recurrence in this region, and in some instances, the sympathetic trunk is encased in a silk cylinder especially when an intraspinal section cannot be performed.

Experience: To date eighty-six surgical procedures have been performed upon fifty-seven patients. Forty-nine lumbar sympathectomies have been done on thirty-six patients with no mortality. Thirty-one thoracolumbar sympathectomies and splanchnicectomies have been performed on seventeen patients with one death. This patient died twenty days postoperative of cerebral thrombosis. Six thoracic sympathectomies have been performed upon four patients with no mortality. A detailed analysis of cases with follow-up will be reported in the near future.

Summary

1. Sympathectomy is defined. A brief review of its historical background, anatomy, and physiology is given.[1]

2. Lumbar sympathectomy is indicated in Buerger's disease, many cases of Raynaud's disease, impaired arterial circulation of lower extremities in presence of vasospasm, excessive hyperhydrosis of nervous origin and certain cases of chronic ulceration.

3. The surgical technique of lumbar sympathectomy is given.

4. High blood pressure and its treatment by sympathectomy is discussed.

5. The technique of sympathectomy for hypertension is described.

6. The technique of thoracic sympathectomy for denervation of the upper extremities is given.

7. Eighty-six surgical operations on fifty-seven cases are reported.*

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**Figures corrected to August 16, 1946.*

PAWTUCKET MEDICAL ASSOCIATION

The regular monthly meeting of the Pawtucket Medical Association was held at 8:45 p.m. September 19, 1946, at the To Kalon Club, Pawtucket. The program was arranged by Dr. Charles L. Farrell.

The meeting was called to order by the President, Dr. William N. Kalcounos. A motion by Dr. Edward Foster to dispense with the reading of the minutes of the previous meeting was seconded and passed.

Applications for membership in the Pawtucket Medical Association were received from Dr. Bert Simmons Jeremiah and Dr. Henry Edward Turner. They were referred to the Standing Committee.

Dr. Orland Smith rose to request a few minutes to discuss medical education. He noted that the trend seemed the same as followed World War I, with Specialty Boards being emphasized and General Practice being relegated to the background. He said that in a recent discussion by a group of Pawtucket doctors the general opinion was to present to the Medical Association their views. Therefore, he introduced a motion that a committee be appointed by the President of the Pawtucket Medical Association to meet a committee representing the executive committee of the staff of the Memorial Hospital to discuss the following three questions:

1. Is it necessary for the head of a department to be a diplomate?
2. What is the fate of the non-diplomate?
3. What is the attitude of the hospital authorities about qualifications for regular promotion?

The motion was seconded by Dr. Charles Farrell and unanimously passed.

The meeting was then turned over to Dr. Charles L. Farrell who introduced the Speaker of the evening, Dr. H. Lorenzo Emidy, Chief of Pediatrics at Woonsocket Hospital and a member of the American Academy of Pediatrics. Dr. Emidy's topic was Infantile Paralysis — Early Diagnosis and Treatment. His remarks were informal and supplemented by films taken at Chapin Hospital. The final round-table discussion considered the Kenny treatment, late summer tonsillectomies and the present outbreak in Woonsocket which Dr. Emidy declared was not an epidemic and would not be one.

Following a buffet supper the meeting was adjourned.

The following regular members were present: Drs. Barry, Beaudoin, Boucher, Gaudet, Gordon, F. Hanley, Foster, Farrell, Healey, Hecker, Hennessey, McCaughey, Tetreault, Wheaton, Sullivan, Henry, Woodcombe, and Zolmian.

Respectfully submitted,

KIERAN W. HENNESSEY, M.D., *Secretary*

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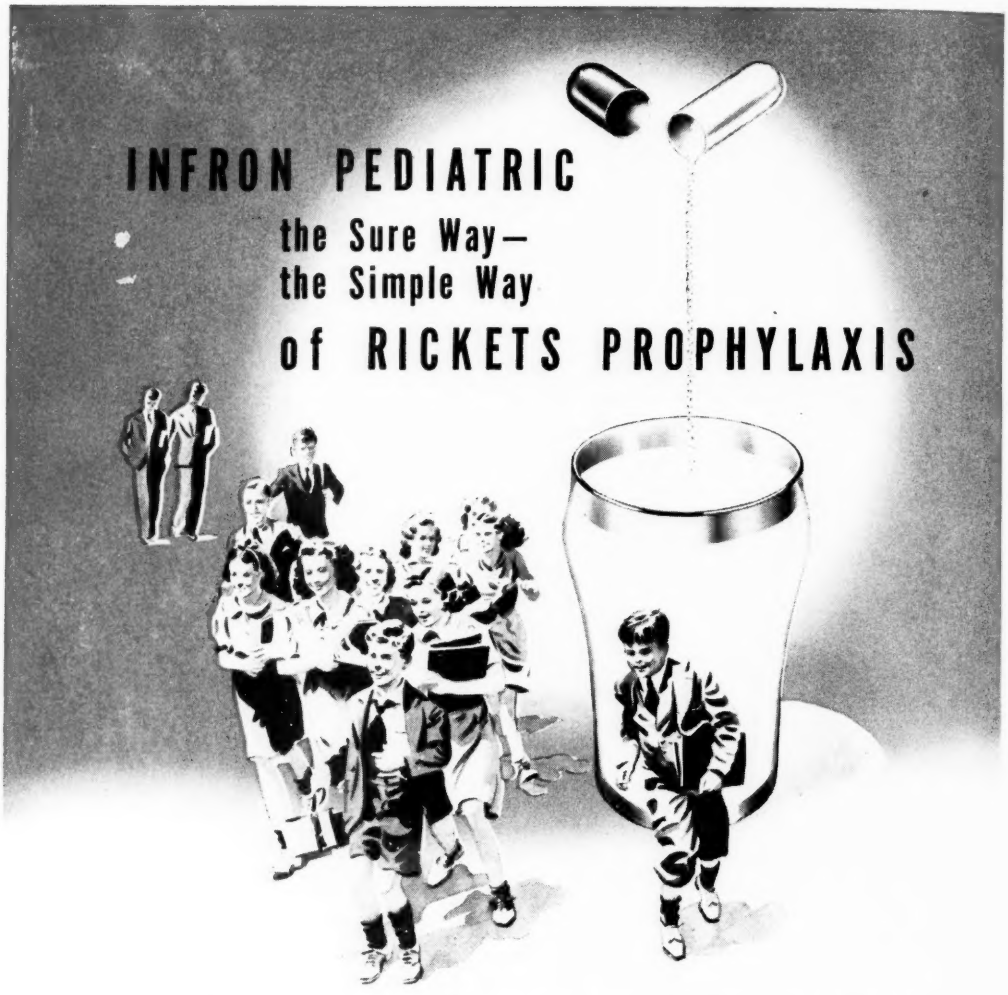
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PUBLIC HEALTH IN RHODE ISLAND

Abstracted from A STUDY OF STATE AND LOCAL RELATIONSHIPS, *prepared and published by the Rhode Island Public Expenditure Council, September, 1946.*

THE first proposal on record in Rhode Island for the levying of a tax was in 1640 when it was desired "to erect a fence five rails high at the head of the spring" in Portsmouth. Although it is said the tax was never assessed and the fence was not built, the incident nevertheless discloses an early recognition of a need for local sanitation as a prevention against pollution of the water supply. From this small beginning there has developed over the years a wide variety of public services which commonly, but not too accurately, are classified as public health functions, and which cost the taxpayers in excess of $2,500,000 annually.

Responsibility of organized society in matters of public health rests primarily on the well established principle that no person may use his property or conduct himself in a way to injure any other person. An individual taken by disease which is communicable may, through indifference or ignorance, transmit that disease to a large number of other persons; or he may maintain sanitary conditions that are a menace, not only to his own health, but to the health of the community. Government, therefore, assumes the right to regulate the conduct of citizens in such a way that their acts or delinquencies do not work material injury to others. It may not, under ordinary circumstances, compel the individual to provide for his own health betterment, or that of his family, as long as he does not criminally neglect the welfare of his dependents, but nevertheless, government has undertaken to provide health education and instruction of the individual and health aid to those who need them. In the past, health aid for the most part has been limited to those who otherwise would be incapable of obtaining it, but recently such a limitation has been more or less disregarded.

Health Functions Classified

The basic health functions, usually performed by most governments—local, county, or state—may be grouped into six major classifications as follows:

(1) Vital Statistics — recording births, deaths, marriages; and research.

(2) Prevention and Control of Diseases — registration, investigation, control.

(3) Protection and Promotion of Child Hygiene — education, assistance, expectant mothers, infants, midwives, maternity hospitals, school age children, working papers, etc.

(4) Public Sanitation — environmental health hazards, food, milk, drugs, water supply, sewerage, working conditions, etc.

(5) Supervision of Persons and Institutions Concerned in Healing Arts — licensing physicians, dentists, osteopaths, etc., hospitals, pharmacies, etc.

(6) Public Health Education.

Public health services are provided by the Federal government, the state government, the local governments, and many private agencies. In Rhode Island the work of certain private agencies such as the District Nursing Associations and some of the hospitals, occupies a field of activity which elsewhere is more commonly supported exclusively by public financing.

Today in Rhode Island there is probably more uncertainty in the respective responsibilities of the state and local governments for the performance of the many activities falling within the broad category of public health service than in any other major function of government. The General Assembly in effect admitted as much when, in authorizing a special commission in 1943 to study the entire question of public health service, it stated, "It is evident that there is no clear-cut division of responsibility, with some services being performed by the state and others left to the varying cities and towns, resulting in confusion as to final responsibility for the efficient performance of public health functions."

Common Pattern Lacking

As is the case with all public service, full responsibility in theory rests exclusively with the state, except for those food and drug activities, which have been taken over by the Federal government under the interstate commerce clause. Actual administration of certain services has been left largely with the local governments though there is no common pattern for the provision of these services except for the recording of vital statistics. For example, in Providence and one or two other communities, an extensive public health program is provided, while in many other communities practically all health service is provided by the state. It is a fair generalization to say that any community which

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deliberately neglects its health responsibilities may be reasonably certain the state will step in and provide at least minimum service at no cost to the local government. Though it is fortunate that the state accepts this responsibility, it results in an unfair tax burden on those communities which discharge their obligations and meet their own proper charges.

There is another angle to this problem, however, which merits consideration. Many of the small local governments have neither the financial resources nor the personnel to provide proper health service. And even though the financial resources may be adequate, the cost of providing a proper health program for a small population would be uneconomical. Modern public health service requires a variety of especially trained skills, and very few of the state's thirty-nine cities and towns would be warranted in attempting to employ an adequate personnel exclusively for their own needs.

Before attempting to rationalize this situation, it is appropriate to review briefly the public health functions as they are now organized and administered.

Vital Statistics — Records of vital statistics are reported to the local governments which in turn report them to the state. Public health law declares that the town clerks of the several towns or "any person whom the board of aldermen of any city or the town council of any town may appoint for that purpose" are responsible for recording correctly and transmitting each month to the state Director of Health the originals of certificates of births, marriages, and deaths registered by them, and for maintaining complete and accurate copies thereof in their own offices. The state Director is ex officio state registrar of vital statistics since it is necessary to comply with conditions imposed upon the states by the United States Bureau of the Census in order that the state of Rhode Island may be included in the "registration area for births and deaths" and its statistics accepted as comparable with those of other states comprising the registration area.

Doctors, clergymen, undertakers, and others required by law to report births, deaths, and marriages are paid small fees, generally twenty-five cents for each case reported. These payments are required by state law, but the amounts so paid are a charge against the local treasuries.

The compensation of registrars in many local governments consists of small fees ranging from twenty to fifty cents for registration of birth, death and marriage certificates, issuance of burial permits and certified copies of vital records. These fees for the most part are paid by the local governments except in the case of certified or uncertified copies of vital records, which are paid for by the applicants.

Comments: Although the state Director of Health is state registrar of vital statistics, his responsibility is in part shared with locally appointed officials who receive the original information.

To be useful, it is essential that vital statistics be recorded accurately and for this, adequate medical knowledge is highly desirable. Although responsibility for reporting the specific and contributing causes of disease is placed on the reporting physician, errors and inaccuracies are encountered, and the recording official should be sufficiently skilled to detect such mistakes at their inception. It is unlikely that town clerks and clerical registrars will possess this knowledge. Moreover, it is doubtful if officials who receive only small fees as their compensation will be of the type that will insure valid records.

Full research and interpretation are not now being done on vital statistics records.

Control of Diseases — The public health law declares that the state Department of Health "shall take cognizance of the interests of life and health among the citizens of the state; shall make investigations into the causes of disease, the prevalence of epidemics and endemics among the people, the sources of mortality, the effect of localities, employment and other conditions and circumstances on the public health, and do all in its power to ascertain the causes and the best means for the prevention of disease of every kind in the state." To perform this function the state maintains a Division of Communicable Diseases; a Division of Services for Crippled Children; a Division of Laboratories; a sanitorium at Wallum Lake and other services for the tubercular; a special program for the control of cancer; supervision over conditions affecting the health of industrial and other workers; and a variety of other activities relating generally to the control and suppression of disease. An important aid to the performance of a major part of this function is the requirement that physicians and other persons (superintendents of hospitals, etc.) having knowledge of any infectious or contagious disease shall report their cases to the state Department of Health.

Health Is State Responsibility

Although it is difficult because of the innumerable individual laws relating to public health to be certain of any summarization, it seems clear that responsibility for the control of disease rests primarily on the state. Local health officers have certain duties to perform, but these duties are largely routine in character and could be performed by any lay person. Moreover, it is not apparent that local health officers have any specific sanction in the law to move on their own initiative to prevent or suppress either contagious or noncontra-

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gious diseases. Cities and towns which provide such services apparently do so under authority of special acts, or by arrangement with the state Director of Health who has broad authority to delegate his powers to subordinates and agents. For the state as a whole, however, it is clear that responsibility for the control of disease rests with the state authorities.

Local boards of health and local health officers are authorized by law primarily for the regulation and control of local nuisances, but these officials, when they possess proper qualifications, could be in an effective position to perform a valuable service in the control and prevention of diseases since their work is at the local level. Furthermore, as their appointment must be approved by the state Director of Health, effective cooperation should be assured. As a matter of fact, however, there are evidences that the contact between the state and local officials is not particularly satisfactory. Some local health officials resent any state "interference."

The inadequacies of local health service in certain communities have prompted the state to establish four district health units, chiefly for the areas outside of Providence which do not or cannot provide an adequate service for themselves. In general, this has produced fairly satisfactory results though it again raises the question of equitability as between the local governments in the matter of meeting the cost.

Comments: The wide differences in mortality rates of certain communities of more or less similar characteristics indicate a need for more thorough and uniform performance.

Existing laws are uncertain and indefinite in establishing duties and responsibilities.

Too many local health officials have neither the qualifications nor the interest required for modern health programs.

Protection and Promotion of Child Hygiene — Child health supervision is the most hopelessly divided function of any of the major public health services. The law (Section 17, Chapter 255) declares that "There shall be in the department of public health a child welfare bureau under the charge of a physician for the study and application of measures for the prevention of maternal and infant mortality; for the preparation and issuance of child health literature, the suppression of diseases of young children, and the organizing of child hygiene work, and for the institution of such other measures for the protection of the lives and the improvement of the health of young children as the said department and bureau may deem necessary."

No Central Authority

Authority over the entire range of child health is not now centered in the maternal and child health division, but is dispersed among several state departments — Labor, Education, and Welfare; the Division of Services for Crippled Children; the health organizations of thirty-nine local governments; the school committees in the thirty-nine local governments; and a score or more of unofficial health organizations scattered throughout the state in local communities. In addition, the Federal government through various subsidies for specific purposes exercises a significant control. In infancy and during the pre-school age, the state's effectiveness in promoting better child health is limited by dependence upon the efforts of private nursing associations which receive from the local governments grants for their official cooperation. In the school years child health programs are administered generally by the local school committees under the supervision of the state Department of Education. The administration of other phases of child life including child labor and child health safety rests with the Department of Labor. In short, the supervision of child health from the beginning of life to its legal termination is so divided among the state and local governments and private agencies, that no single agency has complete responsibility for a well conceived, well directed program for the entire range of child health.

Four or five child health nurses are assigned to each of the four district health offices to cooperate with local officials and unofficial agencies engaged in child health work. This program is carried on throughout the state with the exception of Providence, Pawtucket, and a few other cities and towns in the southern section of the state, where the function is performed at local expense. Diphtheria immunization is carried on in most cities and towns, and immunization and testing programs for whooping cough and tuberculosis are also provided. A dental program is provided in communities which do not otherwise provide the service locally.

Comments: In general the state Department of Health is attempting to provide maternal and child health service in those areas which either do not or cannot provide adequate service for themselves. The organization is faulty and relies heavily on unofficial assistance. Local health authorities have little or no responsibility for promoting these services, except such as may be assumed by local initiative. In the matter of servicing children of school age, the relationship with local school authorities is entirely informal, and responsibility for promoting health service in the schools rests largely on the state Director of Education.

Existing child health laws are indefinite and unsatisfactory. The state assumes the greater share

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of the responsibility, but in the actual performance of the services, it necessarily must rely on information, personnel and conditions which are essentially local in character.

On the other hand, a substantial portion of the actual work involved — inspections, inoculations, advice — requires both skilled and semi-skilled personnel. In many communities adequately trained personnel is not available.

Service with school children now tends heavily toward disease prevention and curative or remedial efforts, and it is quite likely that the school committees require professional guidance in such matters. Where education leaves off and health service begins gives rise to a difficult problem of organization relationships.

Public Sanitation — Public sanitation embraces a wide variety of health services necessary to the prevention and elimination of all environmental health hazards named in the laws as menacing to health, and also all necessary controls of foods and food products, milk and milk products, water supplies and other beverages, and methods and practices in all places dealing with these commodities or utilities. Within this broad classification is included a considerable number of variously organized services such as the prevention of pollution of public and private water supplies; the enforcement of laws dealing with the handling of milk; the inspection and regulation of aquatic recreational facilities; the administration and enforcement of the state pharmacy laws; the control of sewage; inspection and regulation of shellfish waters and the shellfish industries; control and inspection of public eating places; prevention of local nuisances; regulation of slaughter houses; etc.

Overlapping Services Noted

For the most part, these services are performed by the state Department of Health, though control of milk and diseases of cattle which in turn affect the milk supply, are primarily the responsibility of the Department of Agriculture and Conservation. Control of narcotic drugs in part overlaps the responsibilities of the Federal government, and in certain food controls the activities of the state meet but do not overlap the services of the Federal government. Local nuisances are left largely to the local governments and though there are conditions in some of the local units that should receive attention, efforts on the part of the state inspectors to make inquiries or studies without invitation from the local authorities often are resented. Many of the local governments attempt to maintain milk inspection, though it is the opinion of several local health officers that much of this service is unsatisfactory due largely

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PUBLIC HEALTH IN R. I.

continued from preceding page

to the lack of proper training of the local inspectors and to inadequate facilities. The state Department of Health takes samples and makes inspections of milk and to a considerable extent duplicates the work of the local inspectors and of the agriculture department.

In matters of water pollution, sewage and shellfisheries, the state exercises practically all control. In matters of local sanitation which include not only nuisances but control of public eating places, drinking establishments, hotels, camps, etc., the general policy seems to be that the state leaves this work to the local governments except when complaints are received or when the local governments neglect or refuse to perform their functions properly. Such a policy is sanctioned by law, for Chapter 714, P. L. 1939, after providing that the Director of Health shall enforce the sanitary laws, adds the provision "that authority for such enforcement may be delegated to the board of health of any city or town at the discretion of said director of health." There is prevalent on the part of the state authorities a disposition to refrain from "interfering" with the local governments, and there is evident on the part of too many local officials a disrespect for the state officials. This condition is not conducive to good health work and as a result the people as a whole suffer.

Comments: A considerable portion of public sanitation service is performed by persons unqualified by experience or training for the job. In a few services such as sanitary engineering wherein the state has set fairly high personnel standards, the work is being done in a superior manner. In most other instances at both the state and local levels the importance of proper training and experience does not appear to be widely recognized and the results appear to be unsatisfactory.

Laws governing these activities for the most part have been enacted piecemeal, and there are many uncertainties in authority and responsibilities.

Laws concerning milk are definite and local milk inspection as at present performed is largely a waste of effort and money.

Control over eating establishments is divided and neither the state nor the local governments are performing an adequate service.

Supervision of Persons and Institutions Concerned in Healing Arts — The one function which the state has assigned completely to itself is the licensing, supervision and regulation of physicians, dentists, osteopaths, optometrists, chiropractors and other practitioners in the healing arts. Likewise it licenses and supervises pharmacists, nurses,

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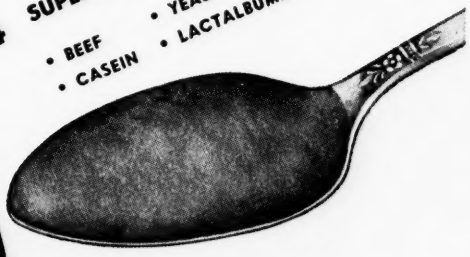
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embalmers, barbers, hairdressers, veterinarians (in the Department of Agriculture), sanitary engineers, plumbers, etc. Most of these licensing functions have been assumed as a means of providing a control over the persons directly concerned in health services. By requiring licenses which are always revokable, reporting of cases and information can be compelled, minimum standards can be maintained, and health work generally can be policed. It is primarily the latter function of "policing" which justifies the state health department in performing the licensing function. Without it the department would have little control over the tools or instrumentalities through which it must work. Although some authorities suggest that the function of granting an original license should rest with the Department of Education since it is largely a matter of measuring training, education and experience, the important service insofar as the public is concerned is that of insuring proper performance, and if the Department of Health is to be held responsible, its authority over licenses should be complete and undivided.

Comments: Licensing power is essentially a policing authority, and it is primarily in the furtherance of that power that the state has a legitimate concern. Laws establishing examining boards generally provide a membership exclusively from within the profession concerned. For strictly examining purposes this is perhaps necessary, but by creating these boards more or less as independent units, the importance of the broad public interests tends to be minimized. It would seem appropriate that provision be made either for a general board to supervise the work of the special examiners or for some representative of the public interest on the specialized examining boards.

Public Health Education—Information for both professional and public use on approved methods of combating disease, warnings and counsel on epidemic conditions, and the constant dissemination of public health advice are commonly regarded as essential health functions. State laws definitely place responsibility for this service on the state Department of Health and local governments have authority to request of the state department such advice as they may require.

In actual practice both the state and the local governments provide certain educational services though there is little evidence of any continuing program of a broad general character. All authorities emphasize the value of the widest possible dissemination of health information, and judged by such standards, Rhode Island suffers by comparison.

Comments: So little is being done to promote public health information, comment necessarily is limited.

Theoretically, the state should be responsible for the analysis of health conditions and for the preparation of educational material. The disseminating of such material can be done by either the state or local governments.

SUMMARY AND SUGGESTION

Although it runs the risk of oversimplifying a complex series of relationships between the state and local governments in the field of public health administration, the following summarization of existing conditions appears to be justified by law, expenditures, and actual operations.

Vital Statistics —
Predominantly local. State's part is essentially routine. State should do more on research and interpretation.

Control of Diseases —
Predominantly local. Service is rendered at local level even when state provides the service.

Child Hygiene —
Divided — Federal, state, local, schools. Service actually is rendered primarily at the local level.

Public sanitation —
Divided — Pollution and problems requiring engineering by state; local nuisances locally controlled; eating places, etc., both state and local.

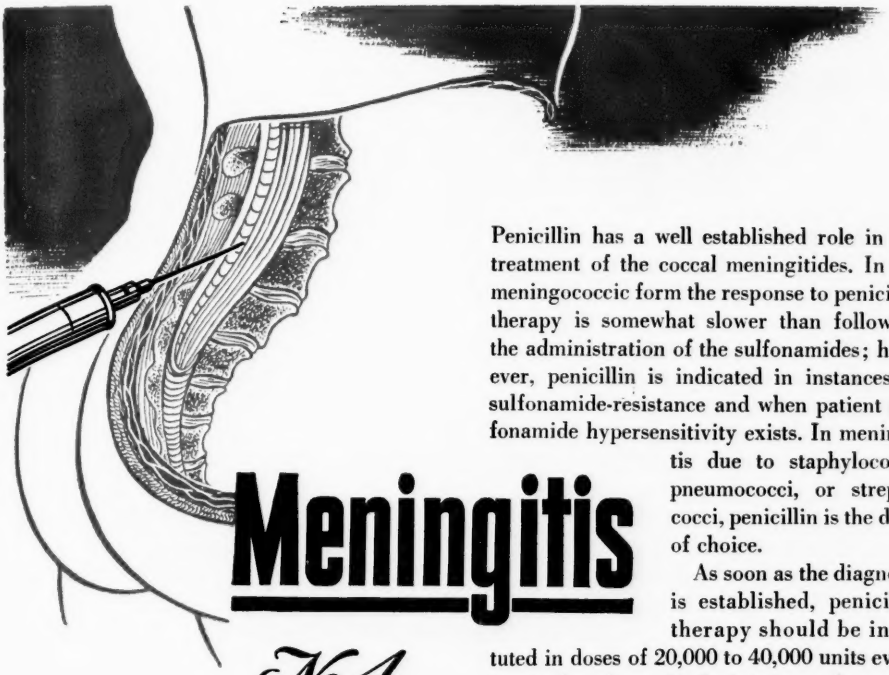
Supervision of Health Sciences and Trades —
Entirely state.

Public Education —
Divided.

Traditionally public health service has been operated as a local service for it deals largely with people, institutions and conditions. Regardless of how it is organized and financed, it necessarily must be rendered at the level or within the environment at which these subjects exist. The state itself recognizes this necessity when it operates certain of its services through local district offices.

Expansion of state public health services appears to have come about largely as a result of inadequate local service. This in turn probably is the result of inadequate local understanding of the importance of public health measures, limited local financial resources, and lack of properly qualified local health officials. Although it properly has been said that disease germs have no respect for municipal boundaries, it does not necessarily follow that all health work must be organized on a state-wide basis. Crime, fire, and many other services — even highways — are not limited to town or city lines, but for administration, area limitations serve a necessary purpose. The problem is essentially one of

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"Household dust is one of the two allergens that account for the majority of the estimated 5,000,000 persons in the United States who are victims of asthma and other respiratory disturbances, resulting from exposure to allergenic substances.

"Principal source of the household dust that causes asthmatic symptoms is bedding dust that results from disintegration of cotton linters . . . the actual allergen is believed to be a protein substance in the minute air-borne particles that result from such disintegration. Moreover, as feathers in pillows are cleaned or renewed, they become brittle; particles break off, get into the air, and are breathed, thus creating respiratory distress in those who are allergic to them."†

The Fiberglas Superfine Fibers used in the pillows are microscopically fine fibers of glass, fabricated into resilient batts. The fibers are light, strong, pliable, moisture-resistant. And, being glass, the fibers are inorganic and, therefore, contain no allergenic protein. They are absolutely safe, from the allergist's viewpoint.

That repeated use will not cause the superfine fibers to penetrate the pillow ticking has been established by an independent testing laboratory.§ Furthermore, additional tests show that, even if particles of the fibers should become crushed and penetrate the ticking, the possibility is very remote that any contact dermatitis of the face and neck could be caused by sleeping on Fiberglas-filled pillows.

Owens-Corning Fiberglas Corporation produces the fibers of glass, does not manufacture pillows. We will be glad to refer your request for complete information about Fiberglas-filled pillows to pillow manufacturers. Or data on the subject of Fiberglas materials and their medical aspects, will be sent on request. Owens-Corning Fiberglas Corporation, Department 2036, Toledo 1, Ohio. Branches in principal cities.

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*T. M. Reg. U. S. Pat. Off.

†Quoted from a report by Karl Figley, M. D., Secretary of the American Academy of Allergy.

§Details of the tests will be furnished on request.

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STUDY SHOWS "FLU" VIRUS EXISTS IN SEVERAL FORMS

The influenza virus, an almost infinitesimally minute living particle, not only exists in several forms but these forms are quite different and individualistic, as if they were different species of animals. This is the conclusion of Dr. Jonas E. Salk of the University of Michigan from investigations conducted with the aid of the Commission on Influenza of the Army Surgeon General's Office.

Determination of differences between strains is essential for preparation of more effective vaccines.

Since virus particles are too small to be seen differences can be found only in their behavior in certain physiological and chemical tests. It has been recognized for some years that there are two major types — Influenza A and Influenza B. The maladies caused by these are indistinguishable so far as overt symptoms are concerned, but their immunological reactions are quite different. A vaccine prepared from A virus is of relatively little value in protecting a person from influenza caused by B virus. The vaccine used by the Army is prepared from a mixture of both.

Dr. Salk's experiments show that within these two types there are highly individualistic strains. Since the flu viruses were first isolated several continuous hereditary lines have been maintained at various laboratories. He tested some properties of these strains — especially a blood-agglutinating ability — under various degrees of heat. Heat tends to speed up chemical and physiological processes. Quite marked differences were found.

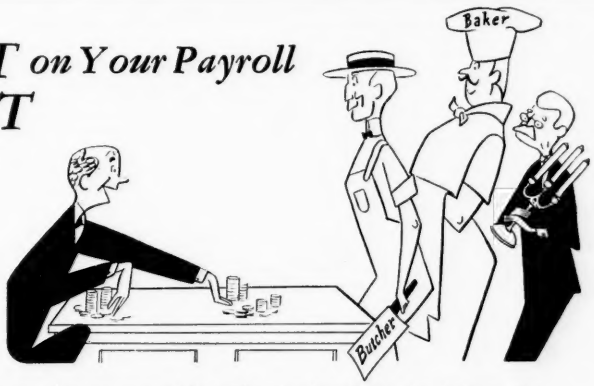
Like all other living things — it is assumed that the virus particle is living because it possesses the fundamental properties of life — these sub-cellular organisms seem bound by some fairly rigid law of heredity. Differences tend to become stabilized in families and persist.

Techniques evolved for finding these differences promise to be of some value in preparing more effective vaccine, the value of which now has been conclusively demonstrated by the Army's tests with great numbers of men during the last year of the war.

... News Release, Office of Surgeon General, Technical Information Division, Washington.

Put Yourself ***FIRST*** *on Your Payroll instead of* ***LAST***

How to Have Income for the Rest of Your Life



When you sit down to take care of your monthly bills, the butcher, the baker, the candlestick maker, each gets what's coming to him — but are you equally careful about setting aside something for yourself and your family?

Too many of us devote our income to meeting present and past expenses, and save only if there's something left over.

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Read about The Connecticut Mutual's Retirement Income plan which enables you to enjoy real peace of mind. Let us send you a copy of our booklet, "What Is the Retirement Income Plan?"

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embalmers, barbers, hairdressers, veterinarians (in the Department of Agriculture), sanitary engineers, plumbers, etc. Most of these licensing functions have been assumed as a means of providing a control over the persons directly concerned in health services. By requiring licenses which are always revokable, reporting of cases and information can be compelled, minimum standards can be maintained, and health work generally can be policed. It is primarily the latter function of "policing" which justifies the state health department in performing the licensing function. Without it the department would have little control over the tools or instrumentalities through which it must work. Although some authorities suggest that the function of granting an original license should rest with the Department of Education since it is largely a matter of measuring training, education and experience, the important service insofar as the public is concerned is that of insuring proper performance, and if the Department of Health is to be held responsible, its authority over licenses should be complete and undivided.

Comments: Licensing power is essentially a policing authority, and it is primarily in the furtherance of that power that the state has a legitimate concern. Laws establishing examining boards generally provide a membership exclusively from within the profession concerned. For strictly examining purposes this is perhaps necessary, but by creating these boards more or less as independent units, the importance of the broad public interests tends to be minimized. It would seem appropriate that provision be made either for a general board to supervise the work of the special examiners or for some representative of the public interest on the specialized examining boards.

Public Health Education—Information for both professional and public use on approved methods of combating disease, warnings and counsel on epidemic conditions, and the constant dissemination of public health advice are commonly regarded as essential health functions. State laws definitely place responsibility for this service on the state Department of Health and local governments have authority to request of the state department such advice as they may require.

In actual practice both the state and the local governments provide certain educational services though there is little evidence of any continuing program of a broad general character. All authorities emphasize the value of the widest possible dissemination of health information, and judged by such standards, Rhode Island suffers by comparison.

Comments: So little is being done to promote public health information, comment necessarily is limited.

Theoretically, the state should be responsible for the analysis of health conditions and for the preparation of educational material. The disseminating of such material can be done by either the state or local governments.

Summary and Suggestion

Although it runs the risk of oversimplifying a complex series of relationships between the state and local governments in the field of public health administration, the following summarization of existing conditions appears to be justified by law, expenditures, and actual operations.

Vital Statistics —
Predominantly local. State's part is essentially routine. State should do more on research and interpretation.

Control of Diseases —
Predominantly local. Service is rendered at local level even when state provides the service.

Child Hygiene —
Divided — Federal, state, local, schools. Service actually is rendered primarily at the local level.

Public sanitation —
Divided — Pollution and problems requiring engineering by state; local nuisances locally controlled; eating places, etc., both state and local.

Supervision of Health Sciences and Trades —
Entirely state.

Public Education —
Divided.

Traditionally public health service has been operated as a local service for it deals largely with people, institutions and conditions. Regardless of how it is organized and financed, it necessarily must be rendered at the level or within the environment at which these subjects exist. The state itself recognizes this necessity when it operates certain of its services through local district offices.

Expansion of state public health services appears to have come about largely as a result of inadequate local service. This in turn probably is the result of inadequate local understanding of the importance of public health measures, limited local financial resources, and lack of properly qualified local health officials. Although it properly has been said that disease germs have no respect for municipal boundaries, it does not necessarily follow that all health work must be organized on a state-wide basis. Crime, fire, and many other services — even highways — are not limited to town or city lines, but for administration, area limitations serve a necessary purpose. The problem is essentially one of

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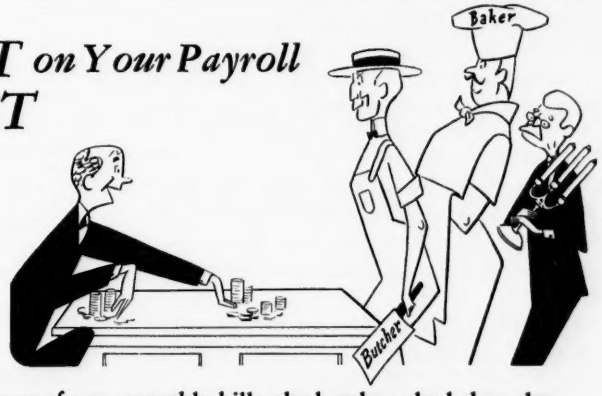
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organizing the public health services in a manner which reconciles properly their intimate local characteristics with the limitations which are inherent in the local governments.

Health a State Responsibility

The most simple solution would be to place entire responsibility for all public health services on the state, abolish all local health officers and mechanisms, and direct the state to organize its administrative areas in any efficient way that it deemed proper. Such a solution would mean very little to most of the local governments, except for Providence and the three or four other local communities that make a real effort to maintain some local health service. It probably would result in better service for a considerable portion of the state's total population.

On the other hand, such a solution would be inconsistent with any general policy which aims to strengthen and revitalize the local governments. If state administration is proper for public health, it probably is equally proper for most other services. Furthermore, the advantages which a system of local administration can provide in the way of experimentation with different methods and ideas, and for meeting particular local needs, are worthy of preservation.

To provide a maximum measure of local responsibility, and at the same time provide an economical administrative structure, it should be possible to organize an efficient public health service along more or less the following lines. It may be observed in these several suggestions that except for the organization of the local health units, the theory and practice of the present laws are closely preserved.

(1) The state would continue the following functions.

(a) Complete control of health sciences and trades — as at present.

(b) Complete control over all sanitary measures — this would expand the state's authority over all nuisances and environmental sanitation; abolish all local milk inspection and set up one all-inclusive system; establish the state as the exclusive regulating and enforcement agency for sanitary measures in eating places, hotels, drinking establishments, camps, etc.

(c) The state would continue its present functions with respect to vital statistics.

(d) The state would prepare and promote educational material bearing on public health matters.

(e) The state would have general supervision of local activities in control of diseases and maternal and child health, except as noted later.

(2) The local governments would be responsible, subject to general supervision by the state, for control of diseases; for maternal and child health care; in short, for strictly medical matters; and as at present for the proper recording of vital statistics.

(a) To perform these functions cities and towns having in excess of 25,000 population should be required to employ a full time, properly qualified public health officer, plus such other assistance as may be necessary.

(b) Towns having less than 25,000 population may join with other cities and towns for the purpose of establishing a joint board of public health and employing a full time qualified public health officer, providing that the total population of the group so uniting shall not be less than 25,000; and providing also that any agreement for uniting with any group of cities or towns shall be for not less than a three year period. If any town fails to join any such group, the state shall provide such services and charge the local government its fair share of the cost.

Would Broaden Service

Such an arrangement, insofar as it is reasonably possible, would make available to every city and town the services of a full time health officer. It would mean eight health officers in the seven cities and the one large town, East Providence, having populations in excess of 25,000. For the remaining 175,000 of the total state population in thirty-one towns, an additional number of health officers, probably not more than four or five, would be employed. Competent authorities have expressed the opinion that every community of 25,000 people or more should have a full time qualified public health official.*

Although there are various details to be considered in working out such a plan, it is desirable for the purposes of this report to keep the discussion on broad issues of general policy. The major endeavor is to provide full time competent direction of medical health services at the level where it is most needed and where the work actually is performed. The smaller local governments cannot afford individually to employ a competent health officer. In the past they have attempted to provide service by employing a local practicing physician on a part time basis. Although there are undoubt-

City Health Administration, Carl E. McCombs, M.D., Macmillan Co., p. 52.

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Because there is striking evidence of nutritional abnormalities . . .*

*Margolis, H. M.: Diagnosis and Treatment of Arthritis and Allied Disorders, New York, N. Y., Paul-B. Hoeber, Inc., 1941, p. 59.

Virtually all recently published reports dealing with the treatment of arthritis stress the therapeutic value of *all* the essential vitamins in the management of arthritic patients.

***Vitamin* D** Many investigators have reported beneficial results from the use of massive dosage of vitamin D in rheumatic disorders. In practically all of these reports, the need for adequate amounts of *all* the essential vitamins is stressed.

***Vitamin* A** The need for large amounts of vitamin A by arthritic patients is based on the observation that arthritics require from 4 to 10 times the quantity of vitamin A usually ingested in the average diet, hence the frequent occurrence of vitamin A deficiency symptoms in arthritic patients.

***Vitamin* B COMPLEX** *Thiamine, Riboflavin, Pyridoxine, Calcium Pantothenate.* That relatively large amounts of the B complex vitamins are required in the treatment of chronic arthritis has been reported by many rheumatologists. Characteristic B complex deficiency symptoms frequently encountered in arthritic patients not only unfavorably affect the course of the arthritic process, but also add to the discomfort typical of the syndrome.

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***Vitamin* E** Beneficial results have been obtained with vitamin E when fibrositis complicates the arthritic process. Since involvement of the soft tissues is the rule in arthritis, vitamin E finds a rightful place in the management of these patients.

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edly some favorable examples of this kind of service, the results as a whole have been decidedly unsatisfactory. A part time health officer is likely to find that if he gives the attention to the public service which is needed, he is compelled to neglect his private practice. The common result is that the public service is neglected and consequently the public interest is not properly protected. Unless some arrangement is adopted by which the small units of local governments can pool their resources, it is almost inevitable that the state will be forced to accept the entire responsibility.

Proper Organization Important

The proposal herein made for local health services would increase costs in all but four or five communities for the simple reason that very little if any service is now being provided. Some savings would result from the elimination of the local milk inspectors and the several local laboratories. The state also should be able to reduce its appropriations on those services which would be taken over by the local governments, though the state would continue to maintain certain supervisory services, and the net saving in cost would not be important. The fact is, however, that health expenditures are now being wasted by being spread too thinly over an unworkable organization, and a relatively small increase in expenditures with a proper organization should produce a superior return for the dollar expended.

Other health problems outside of those heretofore discussed merit consideration.

(1) The Charles V. Chapin Hospital as at present operated is not properly a city function. Originally many communities established so-called "pest houses", later changed to "isolation hospitals" or "contagious disease hospitals." Today the Chapin Hospital operates not only as a contagious disease hospital serving the entire state because of its superior facilities, but also as a tuberculosis and a psychopathic hospital. Recently it has added surgery to its list of facilities. The state has assumed certain responsibilities in the field of hospitalization at both Howard and Wallum Lake, and there is little valid distinction between those institutions and the Chapin Hospital. Earlier opposition to the state taking over the Chapin Hospital was voiced on the grounds that it would place the hospital "in politics." Such specious arguments should not be permitted to stand in the way of this desirable move.

(2) The state maintains a separate division for policing and regulating the sale of narcotic drugs. The Federal government performs a similar service, and the possibilities for abandoning this special service in Rhode Island might be explored.

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